DRAGON PRODUCTS COMPANY
Box 191, U.S. Route 1 • Thomaston, Maine 04861

CERTIFIED MAIL RECEIPT No. 70142120000082013157

January 7, 2015

Mr. Darren Fortescue
Environmental Engineer, Air Technical Unit
US EPA – Region 1
5 Post Office Square, Suite 100
Mail Code: OES04-2
Boston, MA 02109-3912

**Re: Dragon Products Company, LLC**
**NOx Demonstration Report Submittal**

Dear Mr. Fortescue:

Dragon Products Company, LLC (Dragon) is submitting to the U.S. Environmental Protection Agency (EPA) the Demonstration Report pursuant to Condition 7(a) of Attachment 1 of Consent Agreement and Final Order (CAFO) Docket No. CAA 01-2013-0053. Pursuant to Condition 7(c) of Attachment 1 of the CAFO, Dragon is submitting a USB flash drive containing an electronic copy of the report formatted in Microsoft Excel. Also included with this submittal is a hard copy of the report.

If you have any questions or concerns regarding the report, please contact Mr. Michael Martunas, Environmental Manager, at (207) 593-0147.

By signing this letter, I certify that, based on information and belief after reasonable inquiry, that the statements and information contained in the enclosed report are to the best of my knowledge and belief true, accurate, and complete.

Sincerely,

Raymond J. DeGrass
Plant Manager
Dragon Products Company, LLC

Enclosures

c.c. Stephen P. Holt, P.E. (Dragon)
Christine Sansevero (EPA)
Steven Rapp (EPA)
Edward Cousins (MEDEP)

# *Dragon Products Company, LLC*

## *USEPA Consent Agreement and Final Order (Docket No. CAA 01-2013-0053)*

## *Demonstration Period Report*

**Prepared for:**
***USEPA and Maine DEP***

**Prepared by:**
***Dragon Products Company, LLC***

January 2016

## *Attachments:*

## 1.0 Executive Summary

On September 17, 2013,Dragon Products Company, LLC entered into a Consent Agreement and Final Order (CAFO) to settle alleged violations "of the Maine state implementation plan ("SIP") and of the Clean Air Act ("CAA") concerning the construction or modification of a major stationary source without obtaining and operating in compliance with new source review ("NSR") requirements."[1] Dragon and EPA agreed to enter into a settlement without litigation. Furthermore, Dragon neither agreed nor admitted to the allegations and Dragon denies it violated the SIP and CAA as alleged by EPA. Dragon has complied with the CAFO as agreed.

The CAFO includes a step-wise process to determine an appropriate NOx emissions limitation associated with the facility's pre-heater/pre-calciner kiln, utilizing the facility's Selective Non-Catalytic Reduction (SNCR) system as a NOx control device. The first step of the CAFO process required Dragon to install a NOx continuous emissions monitoring system (CEMS) located prior to ammonia injection to identify baseline "uncontrolled" NOx emissions from the kiln while operating under normal operating conditions.

The inlet NOx CEMS was installed in the Dragon cement kiln system in 2014 and Dragon commenced the baseline data collection period on March 6, 2014. The baseline data collection period ended on December 9, 2014 and the final baseline data collection report was submitted to the USEPA and the Maine DEP in February 2015.

The second step of the CAFO process is the performance of a demonstration period. The purpose of the demonstration period is to establish a proposed NOx emissions limit based on the facility's emissions while injecting ammonia at a molar ratio of 1.0 (i.e.- injecting one mole of ammonia ($NH_3$) to every one mole of nitrogen oxide (NOx) indicated by the NOx concentrations measured by the inlet NOx monitor). The requirements of the demonstration period are detailed in CAFO Attachment 1, Condition 6.a, which reads, in part, as follows:

> "During the demonstration period, Dragon shall operate the SNCR during all periods of kiln operation at a molar ratio of 1.0, i.e., injecting one mole of ammonia ($NH_3$) to every one mole of nitrogen oxide (NOx) indicated by the NOx concentrations measured by the inlet NOx monitor, and continuously monitor NOx concentrations at the inlet NOx monitor and at the outlet NOx monitor."

[1] September 17, 2014 Consent Agreement and Final Order, USEPA and Dragon Products Company, LLC

Procedures for the calculation of the proposed NOx emissions limit are detailed in CAFO Attachment 1, Condition 7.b.

The CAFO requires that the Dragon conduct the demonstration period for a minimum of 90 operating days, but no longer than one calendar year from the date of the commencement of the demonstration period. The demonstration period commenced on December 9, 2015 and therefore, in accordance with Condition 6.c of Attachment 1, the demonstration period ended on December 9, 2015 (one calendar year from commencement).

Condition 7.a of Attachment 1 requires Dragon to "submit a "Demonstration Report" to EPA and Maine DEP including the data collected during the demonstration period". The following document and attachments provide the Demonstration Report and includes all data elements required under Attachment 1, Condition 7.a as well as the calculated proposed 30-Day Rolling Average NOx Emission Limit.

Section 2.0 of this report provides CAFO term definitions relevant to the demonstration report and Section 3.0 provides a summary discussion of the data collected provided to demonstrate compliance with the demonstration period requirements of the CAFO. Section 4.0 includes a discussion of the calculated proposed NOx emissions limit and Section 5.0 provides a discussion of the data handling procedures during the demonstration period, including a discussion of "gaps in the data or missing data."

# 2.0 Definitions and Demonstration Period Requirements

## 2.1 CAFO Definitions

Section 3 of the CAFO Attachment 1 provides definitions for several terms included in the CAFO. The following provides definitions relevant to the demonstration period report:

- **"30-Day Rolling Average Emission Limit"** shall mean the maximum allowable rate of emission of NOx from the kiln, expressed as pounds of NOx emitted per ton of clinker produced, as calculated under Section 7.b of this Attachment 1.
- **"Inlet NOx monitor"** shall mean a NOx monitor to continuously measure baseline, uncontrolled NOx emissions from the kiln.
- **"Operating Day"** shall mean any day which includes an Operating Hour.
- **"Operating Hour"** shall mean any hour of a day when raw material is being fed into the kiln and fuel is being fired in the kiln.
- **"SNCR"** shall mean the existing pollution control system that injects an ammonia-based reagent into the gas stream before it has exited the kiln stack for the purposes of reducing NOx emissions.

## 2.2 Demonstration Period Commencement, Duration and Kiln Operation

Section 6 of the CAFO Attachment 1requires Dragon to perform the demonstration period as follows:

- "Immediately following completion of the baseline data collection period, Dragon shall commence a demonstration period. Dragon shall operate the SNCR during all periods of kiln operation at a molar ratio of 1.0, i.e., injecting one mole of ammonia ($NH_3$) to every one mole of nitrogen oxide (NOx) indicated by the NOx concentrations measured by the inlet NOx monitor, and continuously monitor NOx concentrations at the inlet NOx monitor and at the outlet NOx monitor."
- "Dragon may adjust the molar ratio of the SNCR during the demonstration period if necessary to meet applicable ammonia slip limits under Dragon's air emissions license."
- "Dragon shall conduct the demonstration period for a minimum of 90 Operating Days, and for no longer than one calendar year from the date of commencement of the demonstration period."

Dragon commenced the demonstration period of December 9, 2014 and completed the demonstration period on December 9, 2015. The kiln was shut down on

December 30, 2014 for planned winter outage. Dragon commenced operation of the kiln in March 2015 and re-commenced the demonstration period on March 28, 2015. The demonstration period was performed continuously (including all hours of kiln operation), until December 9, 2015 (12 months after commencement of the demonstration period).

Dragon operated the kiln in accordance with all existing air emissions license requirements during the demonstration period. In addition, Dragon operated the kiln in a manner consistent with good air pollution control practices.

# 3.0 Demonstration Period – Data Elements

## 3.1 Kiln Production Rate

Condition 7.a.i requires Dragon to collect the "kiln production rate in tons of clinker (daily total)." Dragon monitors kiln feed to the system using a, FL Smidth (FLS), Pfister feeder (a gravimetric rotary weigh feeder designed to meter pulverized materials into the cement manufacturing process) and converts the raw material feed rate to clinker production using a calcination factor specific to the facility. Daily total kiln production rates are provided in the table provided in Attachment 1 of this report.

## 3.2 Raw Material Feed Rate

Condition 7.a.ii requires Dragon to collect "raw material feed rate in tons (daily total)." As detailed above, Dragon monitors kiln feed to the system using a Pfister feeder. Daily total raw material feed rates are provided in the table provided in Attachment 1 of this report.

## 3.3 Raw Mill Operating Status:

Condition 7.a.iii requires Dragon to submit the "operating status of the raw mill, i.e., whether the raw mill is on or off." Dragon maintains electronic records of the start and stop time for the operation of the facility's in-line raw mill. A copy of these logs documenting the operating up-time for the raw mill is provided as Attachment 2 of this report.

## 3.4 Type, Percentage, and Feed Rate of Each Raw Material Used:

Condition 7.a.iv requires Dragon to submit the "type and percentage of each raw material used and the total feed rate daily." As detailed in Section 2.2 above, Dragon monitors the total raw material (mix) feed rates to the kiln on an hourly and daily basis and the daily total feed rates are provided in Attachment 1 of this report. In addition, Dragon monitors the types and quantities of the individual constituents of the raw material mix produced on a daily basis.

A summary of the daily raw material constituent make-up is provided in Attachment 3 of this report. However, it should be noted that following the production of the raw material mix (in the raw mills), the raw material must travel through the facility's raw material homogenizing silo before it enters the kiln. The residence time of the raw material silo varies from approximately eight (8) to twenty-four (24) hours. Therefore, the daily raw materials identified in the constituent

breakdowns detailed in Attachment 3are not fed to the kiln until they have passed through the facility's raw material homogenizing silo.

## 3.5 NOx Concentrations and Mass Rates:

Condition 7.a.v requires Dragon to submit "NOx concentrations (dry basis) and mass rates for the Kiln (daily average for concentrations and daily totals for mass rates) as measured at the inlet NOx monitor…" Additionally, Condition 7.a.v clarifies that the "NOx shall be reported in lb/hr and lb/ton of clinker produced."

Dragon collected the hourly average inlet NOx concentrations (ppmvd) using the newly installed "inlet NOx monitor" and calculated NOx emission rates (lb/hr) using an air flow meter and temperature probe located in kiln system's "downcomer" section prior to the gas conditioning system. Daily averages were then calculated by averaging each valid operating hour value data point.

NOx emissions in units of "lb/ton of clinker produced" are calculated using the daily total of NOx emissions (lb/day) divided by the daily total clinker production (tn/day, as detailed in Section 2.1 above). The daily NOx emission rates (lb/day) are calculated by multiplying the daily average emission rate (lb/hr) by the kiln operating time. The daily average NOx concentrations (ppmvd) and daily average emission rates (in units of both lb/hr and lb/ton clinker) are provided in the table in Attachment 1 of this report.

It should be noted that the CAFO does not specifically request the submission of stack NOx concentrations and mass rates. However, to perform the necessary calculations of the proposed NOx emission rate limit, these data must be collected and summarized. We believe that the omission of this data element in the CAFO was an oversight and therefore, we are also including the stack NOx emissions data (calculated in the same manner as the inlet NOx monitor emissions as discussed above) in the table in Attachment 1 of this report.

## 3.6 Stack Ammonia Concentrations:

Condition 7.a.vi requires Dragon to submit "ammonia concentrations (dry basis) as measured at the stack." Dragon installed a Fourier – Transfer - Infrared (FTIR) CEMS primarily to monitor Hydrogen Chloride (HCl) emissions pursuant to the new monitoring requirements under 40 CFR §63.1350 in October 2014. The FTIR CEMS is capable of measuring multiple pollutants simultaneously and Dragon added ammonia monitoring to collect data for the demonstration period. Note that neither the CAFO nor any state or federal regulation currently requires Dragon to operate a CEMS for ammonia emissions. . Dragon is submitting as Attachment 4 of this

report, the valid ammonia CEMS data collected during the demonstration period. It should also be noted that the facility's Ammonia Slip testing is required to be performed once every two years. The 2014 Ammonia Slip Test Report was submitted as part of the Baseline Data Collection Period Report and therefore, is not provided with this report.

## 3.7 Burning Zone Temperatures:

Condition 7.a.vii requires Dragon to submit "available temperature data indicative of the burning zone (daily average)." Dragon does not monitor the temperature within the kiln (i.e.- burning zone). The temperature monitor closest to the "burning zone" is a thermocouple located at the kiln "feed shelf." Please refer to Section 3.8 below.

## 3.8 Feed Shelf Temperature:

Condition 7.a.viii requires Dragon to submit "feed shelf temperature (daily average)." Dragon continuously monitors temperature using a thermocouple located at the feed shelf and a summary of daily average feed shelf temperatures are provided in Attachment 1.

## 3.9 Kiln Fuel Types and Feed Rates:

Condition 7.a.ix requires Dragon to submit "kiln fuel feed rate and type of fuel by weight or heat input rate (calculated to a daily average)." Petcoke is the primary fuel utilized by Dragon to fire the on-site cement kiln, with smaller amounts of alternative fuels, such as shredded tires, carpet, and oils being used. Petroleum coke (Petcoke) and alternative fuel feed rates are monitored and reported on a "weight basis" (i.e.- tons per hour). Daily average feed rates of petcoke and alternative fuels are provided in Attachment 1.

## 3.10 Kiln, Back-end, Feed Shelf Oxygen:

Condition 7.a.x requires Dragon to submit "kiln oxygen, kiln back-end oxygen, or feed shelf oxygen (daily average %)." The closest oxygen monitor to the "kiln" is located in the calciner at the location of the inlet NOx monitor. This monitor is located approximately ninety (90) feet downstream from the kiln back end. A summary of the calciner % oxygen values is provided in Attachment 1.

## 3.11 Documentation of any SSM Events:

Condition 7.a.xi requires Dragon to submit "documentation of any SSM events." Dragon maintains Operator logs and electronic records of the start and duration of all start-up, shut-down, and malfunction events for its pre-heater, pre-calciner kiln. A summary of the startup, shut-down, and malfunction events is provided as Attachment 2 of this report.

## 3.12 Data Gaps and Missing Data:

Condition 7.a.xii requires Dagon to provide "an explanation of any gaps in the data or missing data." As detailed above, Attachment 1 provides daily summaries of several of the baseline data elements required under the CAFO. Included in Attachment 1 is a short description of the cause for missing daily data (i.e.- dates for which no valid data were available for that individual date). Also included, although not required under the CAFO, are two columns detailing the daily kiln operating hours and number of available hours of data for each date. A further description of the potential causes of missing data is provided in Section 5.2 below.

## 4.0 Proposed NOx Emissions Limit:

Condition 7.b of the CAFO Attachment 1 requires the following:

> "The Demonstration Report shall propose a 30-Day Rolling Average Emission Limit based on the demonstration period data in accordance with the following formula:
>
> $X = \bar{u} + 1.645\sigma$
>
> Where:
>
> X = 30-Day Rolling Average Emission Limit (lbs NOx/ton clinker)
>
> $\bar{u}$ = mean of all of the 30-day controlled NOx emission rate averages collected during the demonstration period
>
> $\sigma$ = standard deviation of all of the 30-day NOx emission rate averages collected during the demonstration period."

Calculations of the proposed NOx emission rate are provided in Attachment 5 of this report. Based on the data collected during the demonstration period, the calculated proposed NOx emission rate equals 2.33 lb NOx/ton clinker.

# 5.0 Data Handling

## 5.1 Valid Hour Determinations

All daily data elements are calculated using only hours where valid hourly average NOx emissions concentrations (ppmv) and rates (lb/hr) are available. This is done so that all data elements (including production rates, temperatures, etc.) reflect the averages (or totals) consistent with the same hours on which the NOx emission data are based.

In accordance with 40 CFR 60.13(h)(2), valid hours of NOx emissions (ppmv or lb/hr) are considered hours where there exists at least one emissions data point within each 15-minute block period within the hour.

In addition, all hourly data where the ammonia injection system was either down, or not working correctly, are removed from the data collection so that the calculated controlled NOx emission rates represent controlled hourly averages.

## 5.2 Data Gaps and Missing Data

As detailed in Section 3.2 above, Attachment 1 provides short descriptions of the cause of missing data for each operating day. The following provides a more detailed description of several of these causes:

### 5.2.1 Sample Leaks (High Oxygen Levels)

The oxygen levels measured at the inlet NOx monitor are typically in the 1-4% range. Oxygen levels up to 10% can occur during kiln transitions and upset conditions. However, several data points contained oxygen levels in excess of 10%. A further review of the data associated with these times revealed that they were the result of leaks within the gas sampling system, resulting in artificially low NOx concentration levels. Example causes of these leaks were the result of faulty "O-rings;" rubber gaskets that act as seals within the gas sampling system. Due to excessive heat and particulate matter, the seals may malfunction, resulting in ambient air entering the gas sampling stream. Dragon routinely replaces the O-rings during quarterly system maintenance and whenever elevated oxygen data is observed. These data points have been omitted as "invalid data."

### 5.2.2 High Water Temperature

The FLS Kilnloq system uses a closed loop cooling system to regulate temperatures within the probe system. When temperatures are monitored outside the acceptable range, the system automatically shuts down to prevent damage. One (1) major failure of the inlet monitor's coolant system occurred during the demonstration period, and several minor malfunctions also occurred throughout the demonstration period.

The major failure occurred shortly after system startup in April 2015. An O-ring within the probe's coolant jacket failed. This failure required a site visit by an FLS Service Technician to disassemble the probe's coolant system to repair the damaged O-ring.

Several minor malfunctions of the coolant system occurred during the demonstration period that resulted in monitoring down time. These malfunctions include; the breaker for the cooling fan tripping, plugged filter screen, and the rupture of the coolant water supply line. Each of these malfunctions was responsible for minor monitor down times throughout the demonstration period.

### 5.2.3 Low Suction Alarm

The FLS Kilnloq system uses several in-line filters throughout the gas sampling stream to remove particulate matter and debris. In addition, the Kilnloq system includes a gas cooler that reduces the sample gas stream temperature and removes any moisture prior to NOx analyzer. The Kilnloq system is designed to monitor the differential pressure within the sample gas stream, and will automatically shutdown if the gas stream's pressure is outside of normal operating values.

Dragon experienced minor delays throughout the demonstration period due to the failure, or clogging, of various sample gas stream filters. In addition, Dragon experienced clogging within the impinge portion of the gas cooling system, which also resulted in a low suction alarm and system shutdown. Dragon performed daily, weekly, monthly, and quarterly maintenance of the Kilnloq probe system as instructed by the manufacturer, however, due to the harsh sampling environment unexpected malfunctions still occurred.

### 5.2.4 Inlet NOx Analyzer Malfunction

The FLS Kilnloq system utilizes an ABB Model EL3040 continuous NOx analyzer. During the demonstration period the monitor malfunctioned resulting in several days of erroneous uncontrolled NOx emissions. The two (2) major causes of the malfunctions were dirty optic cells within the analyzer and an error with the daily calibration drift check.

Dragon contacted representatives from both FLS and ABB to diagnose, clean, and repair the analyzer's optic cells. Once repaired and the system brought back online the Kilnloq system functioned normally.

On two (2) occasions an error during the daily calibration drift check resulted in erroneous readings from the NOx analyzer. Once Dragon realized the error it was corrected immediately.

The facility's ammonia injection was programmed to inject ammonia at a molar ratio of 1:1 (moles ammonia to moles NOx) and therefore, the erroneous inlet NOx values resulted in erroneous ammonia injection rates. These data have been removed from the analyses.

### 5.2.5 Data Logger Malfunction

On October 10, 2015, Dragon's process data logger malfunctioned and no data were collected. The cause of the malfunction is unknown. Therefore, no data are available for these days.

### 5.2.6 Gas Cooler Malfunction

On November 17, 2015 the gas cooling system malfunctioned, resulting in excess temperature and moisture from the gas stream entering the system. Dragon contracted a Heating, Venting, and Air Conditioning (HVAC) technician to diagnose the malfunction. The onsite evaluation could not definitively indicate the problem, but suggested the likely cause to be a failure of the system's compressor motor. Dragon removed the cooling unit from the Kilnloq system and shipped the system to the manufacturer for diagnosis and repair. The manufacturer confirmed the malfunction was the result of a failed compressor motor, repaired the unit, and returned to Dragon. Dragon received the repaired unit after the demonstration period ended on December 9, 2015.

## 5.3 Ammonia Injection System

At times during the demonstration period, the ammonia injection was not initiated or was injecting at low rates. The CAFO requires that all data used in the analysis result from the injection of ammonia at a molar ratio of 1 mole of ammonia to 1 mole of uncontrolled NOx emissions. Therefore, any dates when ammonia was not being injected into the cement kiln system have been removed from the analysis.

# ATTACHMENT 1

*Dragon Products Company, LLC*

*CAFO Data Elements Summary Table*

**Dragon Products Company, LLC**
**USEPA and Dragon Products Company, LLC**
**Consent Agreement and Final Order**
**Attachment I: Condition 7: Demonstration Period Data Collection**
**Daily Data Summaries**

**Sheet 1: Demonstration Period Daily Data Values:**

| | a.1 | a.ii | a.iii | a.iv | | | a.v | | | Stack Data (Not Included in CAFO) | | | a.vi | a.vii | a.viii | a.ix | | | | | a.x | a.xi | a.xii | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date | Kiln Production (tpd) | Raw Material Feed Rate (tpd) | Raw Mill Operating Status (RM-on/ RM-off) | Type Raw Material Used | % of Raw Material Used | Tons Raw Material Used (tpd) | Daily Average Inlet NOx Concentration (ppmvd) | Daily Average Inlet NOx Emiss. Rate (lb/hr) | Daily Average Inlet NOx Emiss. Rate (lb/tn) | Daily Average Stack NOx Concentration (ppmvd) | Daily Average Stack NOx Emiss. Rate (lb/hr) | Daily Average Stack NOx Emiss. Rate (lb/tn) | Stack Ammonia Conc. (ppmvd) | Daily Average Burning Zone Temp. (°F)[1] | Daily Average Feed Shelf Temp (°F) | Daily Average Coke Fuel Feed Rate (tph) | Daily Average Carpet Feed Rate (tph) | Daily Average Tire Fuel Feed Rate (tph) | Daily Average Oil Feed Rate (tph) | Daily Average kiln Oxygen (%)[2] | Start-up, Shut-down Periods | Data Gap Explanations | Daily Operating Hours | Daily NOx Data Hours |
| 12/9/2014 | 2393 | 4064 | See Sheet 2 | See Sheet 3 | | | 1079.00 | 523.50 | 5.25 | 278.95 | 286.67 | 2.88 | See Sheet 4 | Not Available | 1961.25 | 11.13 | 0.00 | 0.00 | 0.00 | 2.43 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/10/2014 | 2203 | 3741 | See Sheet 2 | See Sheet 3 | | | 1101.40 | 511.74 | 5.58 | 240.51 | 236.33 | 2.57 | See Sheet 4 | Not Available | 1924.15 | 10.52 | 0.00 | 0.00 | 0.34 | 2.96 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/11/2014 | 1607 | 2729 | See Sheet 2 | See Sheet 3 | | | 1146.86 | 467.88 | 6.14 | 287.30 | 257.61 | 3.38 | See Sheet 4 | Not Available | 1843.68 | 8.10 | 0.00 | 0.00 | 0.33 | 3.55 | See Sheet 2 | N/A | 21.10 | 20.00 |
| 12/12/2014 | 1076 | 1828 | See Sheet 2 | See Sheet 3 | | | 1041.33 | 460.94 | 5.71 | 242.61 | 241.56 | 2.99 | See Sheet 4 | Not Available | 1958.48 | 5.70 | 0.00 | 0.00 | 0.42 | 2.59 | See Sheet 2 | N/A | 13.33 | 9.00 |
| 12/13/2014 | 2268 | 3852 | See Sheet 2 | See Sheet 3 | | | 1093.99 | 511.80 | 5.42 | 279.09 | 293.36 | 3.10 | See Sheet 4 | Not Available | 2020.79 | 9.81 | 0.00 | 0.93 | 0.00 | 2.52 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/14/2014 | 2302 | 3910 | See Sheet 2 | See Sheet 3 | | | 1428.00 | 683.87 | 7.13 | 321.61 | 331.28 | 3.45 | See Sheet 4 | Not Available | 2000.84 | 9.23 | 0.00 | 1.16 | 0.00 | 2.59 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/15/2014 | 2264 | 3846 | See Sheet 2 | See Sheet 3 | | | 1465.97 | 694.41 | 7.36 | 305.17 | 319.09 | 3.38 | See Sheet 4 | Not Available | 1980.99 | 10.38 | 0.00 | 0.76 | 0.00 | 2.42 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/16/2014 | 2326 | 3951 | See Sheet 2 | See Sheet 3 | | | 1241.60 | 603.24 | 6.22 | 323.69 | 318.36 | 3.28 | See Sheet 4 | Not Available | 1999.08 | 10.56 | 0.00 | 0.83 | 0.00 | 2.43 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/17/2014 | 2304 | 3913 | See Sheet 2 | See Sheet 3 | | | 1108.32 | 551.70 | 5.75 | 255.44 | 266.23 | 2.77 | See Sheet 4 | Not Available | 1998.15 | 11.21 | 0.00 | 1.20 | 0.27 | 2.51 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/18/2014 | 2135 | 3627 | See Sheet 2 | See Sheet 3 | | | 1116.39 | 534.98 | 6.01 | 235.20 | 255.60 | 2.87 | See Sheet 4 | Not Available | 1972.37 | 10.63 | 0.03 | 1.26 | 0.00 | 2.53 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/19/2014 | 2178 | 3698 | See Sheet 2 | See Sheet 3 | | | 1094.27 | 529.66 | 5.84 | 230.21 | 252.82 | 2.79 | See Sheet 4 | Not Available | 1990.81 | 10.98 | 0.08 | 1.02 | 0.21 | 2.29 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/20/2014 | 2462 | 4182 | See Sheet 2 | See Sheet 3 | | | 1033.82 | 508.36 | 4.96 | 255.68 | 280.66 | 2.74 | See Sheet 4 | Not Available | 2039.61 | 11.38 | 0.00 | 1.94 | 0.22 | 1.93 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/21/2014 | 2217 | 3766 | See Sheet 2 | See Sheet 3 | | | 1069.03 | 502.34 | 5.44 | 246.29 | 270.28 | 2.93 | See Sheet 4 | Not Available | 1995.17 | 11.46 | 0.00 | 1.06 | 0.00 | 2.28 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/22/2014 | 2456 | 4171 | See Sheet 2 | See Sheet 3 | | | 1139.06 | 565.80 | 5.53 | 279.11 | 308.39 | 3.01 | See Sheet 4 | Not Available | 2037.21 | 11.02 | 0.00 | 0.54 | 0.00 | 1.77 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/23/2014 | 2546 | 4325 | See Sheet 2 | See Sheet 3 | | | 1145.87 | 689.74 | 6.50 | 251.83 | 264.81 | 2.50 | See Sheet 4 | Not Available | 2047.05 | 11.51 | 0.00 | 0.35 | 0.00 | 2.38 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/24/2014 | 2362 | 4011 | See Sheet 2 | See Sheet 3 | | | 1011.08 | 484.31 | 4.92 | 224.55 | 239.85 | 2.44 | See Sheet 4 | Not Available | 1986.65 | 11.10 | 0.00 | 0.42 | 0.00 | 2.85 | See Sheet 2 | N/A | 24.00 | 23.00 |
| 12/25/2014 | 2425 | 4118 | See Sheet 2 | See Sheet 3 | | | 933.28 | 460.11 | 4.55 | 194.89 | 196.34 | 1.94 | See Sheet 4 | Not Available | 1998.82 | 11.68 | 0.00 | 0.00 | 0.00 | 3.07 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/26/2014 | 2365 | 4017 | See Sheet 2 | See Sheet 3 | | | 970.32 | 466.29 | 4.73 | 260.53 | 274.28 | 2.78 | See Sheet 4 | Not Available | 2041.98 | 11.08 | 0.00 | 0.33 | 0.00 | 3.05 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/27/2014 | 2387 | 4054 | See Sheet 2 | See Sheet 3 | | | 886.07 | 431.01 | 4.33 | 252.39 | 265.70 | 2.67 | See Sheet 4 | Not Available | 1956.99 | 11.71 | 0.00 | 1.19 | 0.00 | 3.35 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 12/28/2014 | 2300 | 3907 | See Sheet 2 | See Sheet 3 | | | 928.78 | 469.94 | 4.90 | 269.19 | 284.25 | 2.97 | See Sheet 4 | Not Available | 1947.71 | 11.31 | 0.00 | 0.97 | 0.02 | 4.44 | See Sheet 2 | N/A | 24.00 | 3.00 |
| 12/29/2014 | 469 | 797 | INVALID DATA | | | | | | | | | | | | | | | | | | | N/A | 5.00 | 0.00 |
| 12/30-3/27/15 | 0 | 0 | KILN DOWN | | | | | | | | | | | | | | | | | | | N/A | | |
| 3/28/2015 | 792 | 1345 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, No Ammonia Injection | 11.32 | 0.00 |
| 3/29/2015 | 1998 | 3393 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, No Ammonia Injection | 24.00 | 0.00 |
| 3/30/2015 | 1272 | 2160 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, No Ammonia Injection | 14.83 | 0.00 |
| 3/31/2015 | 0 | 0 | KILN DOWN | | | | | | | | | | | | | | | | | | | N/A | 0.00 | 0.00 |
| 4/1/2015 | 1816 | 3084 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, No Ammonia Injection | 21.00 | 0.00 |
| 4/2/2015 | 1344 | 2282 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, No Ammonia Injection | 18.98 | 0.00 |
| 4/3/2015 | 2047 | 3477 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, No Ammonia Injection | 24.00 | 0.00 |
| 4/4/2015 | 1957 | 3323 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, No Ammonia Injection | 21.33 | 0.00 |
| 4/5/2015 | 0 | 0 | KILN DOWN | | | | | | | | | | | | | | | | | | | N/A | 0.00 | 0.00 |
| 4/6/2015 | 413 | 701 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 5.67 | 0.00 |
| 4/7/2015 | 1801 | 3058 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 20.33 | 0.00 |
| 4/8/2015 | 1111 | 1887 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 13.88 | 0.00 |
| 4/9/2015 | 2002 | 3400 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 23.25 | 0.00 |
| 4/10/2015 | 1636 | 2779 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 22.75 | 0.00 |
| 4/11/2015 | 2079 | 3531 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/12/2015 | 2226 | 3780 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/13/2015 | 1659 | 2818 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 20.12 | 0.00 |
| 4/14/2015 | 1918 | 3257 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/15/2015 | 1897 | 3222 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/16/2015 | 1637 | 2781 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/17/2015 | 1790 | 3041 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/18/2015 | 1950 | 3312 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/19/2015 | 1811 | 3076 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/20/2015 | 1774 | 3013 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/21/2015 | 1888 | 3207 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/22/2015 | 2014 | 3421 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/23/2015 | 1950 | 3311 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/24/2015 | 1650 | 2802 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 21.30 | 0.00 |
| 4/25/2015 | 2097 | 3562 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/26/2015 | 2159 | 3667 | INVALID DATA | | | | | | | | | | | | | | | | | | | Probe Out, Cooling System Malfunction | 24.00 | 0.00 |
| 4/27/2015 | 2169 | 3685 | See Sheet 2 | See Sheet 3 | | | 618.37 | 323.51 | 3.58 | 202.26 | 209.23 | 2.31 | See Sheet 4 | Not Available | 2048.16 | 9.34 | 0.15 | 0.00 | 0.00 | 1.86 | See Sheet 2 | N/A | 24.00 | 8.00 |
| 4/28/2015 | 2124 | 3608 | See Sheet 2 | See Sheet 3 | | | 688.47 | 358.98 | 4.06 | 192.13 | 202.63 | 2.29 | See Sheet 4 | Not Available | 1896.22 | 9.61 | 0.20 | 0.00 | 0.00 | 2.53 | See Sheet 2 | N/A | 24.00 | 24.00 |

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4/29/2015 | 1948 | 3308 | See Sheet 2 | See Sheet 3 | 852.62 | 406.37 | 5.01 | 194.96 | 176.64 | 2.18 | See Sheet 4 | Not Available | 1776.42 | 8.52 | 0.20 | 0.00 | 0.00 | 2.25 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 4/30/2015 | 1848 | 3139 | See Sheet 2 | See Sheet 3 | 642.53 | 309.01 | 4.01 | 123.82 | 124.89 | 1.62 | See Sheet 4 | Not Available | 1986.22 | 8.17 | 0.25 | 0.00 | 0.01 | 3.29 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/1/2015 | 2071 | 3517 | See Sheet 2 | See Sheet 3 | 586.21 | 287.83 | 3.34 | 168.75 | 173.82 | 2.01 | See Sheet 4 | Not Available | 2004.97 | 9.29 | 0.38 | 0.00 | 0.01 | 3.68 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/2/2015 | 1820 | 3092 | See Sheet 2 | See Sheet 3 | 586.09 | 278.43 | 3.53 | 134.74 | 135.39 | 1.72 | See Sheet 4 | Not Available | 1923.26 | 8.29 | 0.17 | 0.00 | 0.03 | 3.46 | See Sheet 2 | N/A | 23.07 | 22.00 |
| 5/3/2015 | 0 | 0 | KILN DOWN | | | | | | | | | | | | | | | | | N/A | 0.00 | 0.00 |
| 5/4/2015 | 0 | 0 | KILN DOWN | | | | | | | | | | | | | | | | | N/A | 0.00 | 0.00 |
| 5/5/2015 | 220 | 374 | KILN DOWN, Probe Out | | | | | | | | | | | | | | | | | Kiln Down, Probe Out | 2.42 | 0.00 |
| 5/6/2015 | 2138 | 3631 | See Sheet 2 | See Sheet 3 | 836.56 | 394.04 | 4.42 | 193.44 | 184.94 | 2.08 | See Sheet 4 | Not Available | 1982.63 | 8.24 | 0.00 | 0.00 | 0.00 | 3.00 | See Sheet 2 | N/A | 24.00 | 15.00 |
| 5/7/2015 | 2228 | 3784 | See Sheet 2 | See Sheet 3 | 1021.72 | 508.43 | 5.48 | 201.08 | 212.96 | 2.29 | See Sheet 4 | Not Available | 1981.76 | 8.67 | 0.12 | 0.00 | 0.00 | 3.00 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/8/2015 | 2308 | 3920 | See Sheet 2 | See Sheet 3 | 986.11 | 495.56 | 5.15 | 203.63 | 208.68 | 2.17 | See Sheet 4 | Not Available | 1959.82 | 9.30 | 0.25 | 0.00 | 0.00 | 2.99 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/9/2015 | 2301 | 3908 | See Sheet 2 | See Sheet 3 | 841.25 | 436.61 | 4.55 | 193.18 | 206.69 | 2.16 | See Sheet 4 | Not Available | 1960.20 | 9.56 | 0.29 | 0.00 | 0.00 | 2.81 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/10/2015 | 2249 | 3819 | See Sheet 2 | See Sheet 3 | 935.12 | 485.54 | 5.18 | 186.53 | 192.15 | 2.05 | See Sheet 4 | Not Available | 1965.67 | 9.10 | 0.32 | 0.00 | 0.00 | 2.84 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/11/2015 | 2020 | 3431 | See Sheet 2 | See Sheet 3 | 807.50 | 408.00 | 4.85 | 167.92 | 183.02 | 2.17 | See Sheet 4 | Not Available | 1966.18 | 8.99 | 0.38 | 0.00 | 0.00 | 2.75 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/12/2015 | 2173 | 3691 | See Sheet 2 | See Sheet 3 | 764.73 | 381.66 | 4.21 | 161.16 | 169.95 | 1.88 | See Sheet 4 | Not Available | 1947.09 | 8.59 | 0.44 | 0.00 | 0.00 | 3.07 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/13/2015 | 2124 | 3607 | See Sheet 2 | See Sheet 3 | 823.09 | 401.62 | 4.54 | 164.53 | 173.52 | 1.96 | See Sheet 4 | Not Available | 1944.39 | 8.86 | 0.28 | 0.00 | 0.00 | 3.06 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/14/2015 | 1916 | 3253 | See Sheet 2 | See Sheet 3 | 835.71 | 384.33 | 4.82 | 144.85 | 135.09 | 1.69 | See Sheet 4 | Not Available | 2572.68 | 8.39 | 0.16 | 0.00 | 0.00 | 3.39 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/15/2015 | 2100 | 3567 | See Sheet 2 | See Sheet 3 | 802.13 | 389.78 | 4.45 | 160.00 | 161.74 | 1.85 | See Sheet 4 | Not Available | 2486.37 | 8.69 | 0.22 | 0.00 | 0.00 | 2.85 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/16/2015 | 2269 | 3854 | See Sheet 2 | See Sheet 3 | 826.94 | 419.24 | 4.43 | 177.15 | 190.41 | 2.01 | See Sheet 4 | Not Available | 1733.54 | 9.17 | 0.25 | 0.00 | 0.00 | 2.16 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/17/2015 | 2070 | 3515 | See Sheet 2 | See Sheet 3 | 811.37 | 395.20 | 4.58 | 161.19 | 166.44 | 1.93 | See Sheet 4 | Not Available | 1727.23 | 8.31 | 0.23 | 0.00 | 0.01 | 3.07 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/18/2015 | 1890 | 3210 | See Sheet 2 | See Sheet 3 | 697.71 | 323.22 | 4.10 | 158.50 | 164.34 | 2.09 | See Sheet 4 | Not Available | 1803.94 | 7.91 | 0.22 | 0.00 | 0.01 | 3.85 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/19/2015 | 1745 | 2964 | See Sheet 2 | See Sheet 3 | 737.11 | 317.14 | 4.36 | 154.52 | 138.45 | 1.90 | See Sheet 4 | Not Available | 1920.28 | 7.89 | 0.16 | 0.00 | 0.00 | 3.57 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 5/20/2015 | 1255 | 2132 | See Sheet 2 | See Sheet 3 | 906.58 | 447.10 | 5.34 | 182.04 | 202.69 | 2.42 | See Sheet 4 | Not Available | 1921.21 | 5.30 | 0.10 | 0.00 | 0.00 | 2.44 | See Sheet 2 | N/A | 15.00 | 14.00 |
| 5/21/2015 | 0 | 0 | KILN DOWN | | | | | | | | | | | | | | | | | N/A | 0.00 | 0.00 |
| 5/22-5/30/15 | 0 | 0 | KILN DOWN | | | | | | | | | | | | | | | | | N/A | 0.00 | 0.00 |
| 6/1/2015 | 405 | 689 | INVALID DATA | | | | | | | | | | | | | | | | | Probe Out, No Ammonia Injection | 5.83 | 0.00 |
| 6/2/2015 | 2052 | 3485 | See Sheet 2 | See Sheet 3 | 921.62 | 442.75 | 5.18 | 198.64 | 218.02 | 2.55 | See Sheet 4 | Not Available | 2001.69 | 8.93 | 0.00 | 0.58 | 0.00 | 3.36 | See Sheet 2 | N/A | 24.00 | 8.00 |
| 6/3/2015 | 2272 | 3858 | See Sheet 2 | See Sheet 3 | 868.28 | 415.75 | 4.39 | 197.80 | 212.18 | 2.24 | See Sheet 4 | Not Available | 2016.41 | 8.80 | 0.19 | 1.22 | 0.00 | 2.70 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/4/2014 | 1982 | 3366 | See Sheet 2 | See Sheet 3 | 791.71 | 356.17 | 4.31 | 173.34 | 165.79 | 2.01 | See Sheet 4 | Not Available | 1944.85 | 8.33 | 0.15 | 0.70 | 0.00 | 4.07 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/5/2015 | 1932 | 3282 | See Sheet 2 | See Sheet 3 | 931.64 | 412.88 | 5.13 | 190.74 | 183.51 | 2.28 | See Sheet 4 | Not Available | 1936.94 | 8.72 | 0.06 | 0.17 | 0.00 | 3.93 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/6/2015 | 2273 | 3860 | See Sheet 2 | See Sheet 3 | 904.39 | 451.59 | 4.77 | 168.17 | 181.73 | 1.92 | See Sheet 4 | Not Available | 1988.77 | 8.93 | 0.23 | 1.29 | 0.00 | 2.72 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/7/2015 | 2252 | 3824 | See Sheet 2 | See Sheet 3 | 822.05 | 409.75 | 4.37 | 181.95 | 194.24 | 2.07 | See Sheet 4 | Not Available | 1977.47 | 8.59 | 0.37 | 1.17 | 0.00 | 3.27 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/8/2015 | 2209 | 3751 | See Sheet 2 | See Sheet 3 | 841.77 | 429.66 | 4.35 | 176.48 | 191.63 | 1.94 | See Sheet 4 | Not Available | 1992.99 | 8.60 | 0.26 | 1.23 | 0.10 | 2.73 | See Sheet 2 | N/A | 22.35 | 22.00 |
| 6/9/2015 | 2161 | 3671 | See Sheet 2 | See Sheet 3 | 859.58 | 440.39 | 4.62 | 186.82 | 194.17 | 2.04 | See Sheet 4 | Not Available | 1975.37 | 8.24 | 0.40 | 1.31 | 0.12 | 3.32 | See Sheet 2 | N/A | 22.67 | 20.00 |
| 6/10/2015 | 2209 | 3751 | See Sheet 2 | See Sheet 3 | 891.09 | 460.76 | 5.01 | 200.88 | 211.66 | 2.30 | See Sheet 4 | Not Available | 2005.00 | 9.08 | 0.29 | 0.91 | 0.00 | 3.10 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/11/2015 | 1342 | 2279 | See Sheet 2 | See Sheet 3 | 976.66 | 488.11 | 5.98 | 227.66 | 241.72 | 2.96 | See Sheet 4 | Not Available | 2044.44 | 5.98 | 0.16 | 0.62 | 0.29 | 3.11 | See Sheet 2 | N/A | 16.45 | 9.00 |
| 6/12/2015 | 2155 | 3659 | See Sheet 2 | See Sheet 3 | 969.03 | 490.79 | 5.47 | 158.78 | 166.00 | 1.85 | See Sheet 4 | Not Available | 2040.56 | 8.73 | 0.28 | 1.52 | 0.00 | 3.05 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/13/2015 | 1514 | 2572 | See Sheet 2 | See Sheet 3 | 709.34 | 352.60 | 4.57 | 140.16 | 148.63 | 1.93 | See Sheet 4 | Not Available | 1980.12 | 6.84 | 0.10 | 0.72 | 0.36 | 3.99 | See Sheet 2 | N/A | 19.63 | 10.00 |
| 6/14/2015 | 2106 | 3577 | See Sheet 2 | See Sheet 3 | 740.95 | 374.93 | 4.27 | 158.51 | 165.98 | 1.89 | See Sheet 4 | Not Available | 2027.83 | 8.75 | 0.26 | 1.12 | 0.00 | 3.05 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/15/2015 | 2163 | 3673 | See Sheet 2 | See Sheet 3 | 767.89 | 382.53 | 4.24 | 160.13 | 170.70 | 1.89 | See Sheet 4 | Not Available | 1970.12 | 8.93 | 0.18 | 0.97 | 0.00 | 2.86 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/16/2015 | 2074 | 3522 | See Sheet 2 | See Sheet 3 | 879.49 | 434.64 | 5.03 | 176.19 | 187.48 | 2.17 | See Sheet 4 | Not Available | 1989.38 | 8.93 | 0.15 | 1.31 | 0.00 | 3.29 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/17/2015 | 1377 | 2338 | See Sheet 2 | See Sheet 3 | 1098.36 | 551.66 | 6.38 | 205.65 | 215.77 | 2.50 | See Sheet 4 | Not Available | 1998.85 | 6.37 | 0.09 | 0.47 | 0.39 | 2.35 | See Sheet 2 | N/A | 15.92 | 9.00 |
| 6/18/2015 | 1890 | 3211 | See Sheet 2 | See Sheet 3 | 860.22 | 434.83 | 4.91 | 175.75 | 186.39 | 2.10 | See Sheet 4 | Not Available | 1970.96 | 7.91 | 0.22 | 1.20 | 0.24 | 2.70 | See Sheet 2 | N/A | 21.33 | 13.00 |
| 6/19/2015 | 2145 | 3643 | See Sheet 2 | See Sheet 3 | 883.99 | 441.30 | 4.82 | 200.25 | 200.46 | 2.19 | See Sheet 4 | Not Available | 1940.53 | 8.40 | 0.26 | 1.13 | 0.06 | 3.29 | See Sheet 2 | N/A | 23.45 | 12.00 |
| 6/20/2015 | 1891 | 3212 | See Sheet 2 | See Sheet 3 | 1188.47 | 559.62 | 6.39 | 222.23 | 218.58 | 2.49 | See Sheet 4 | Not Available | 2129.31 | 8.49 | 0.04 | 0.29 | 0.17 | 2.29 | See Sheet 2 | N/A | 21.58 | 13.00 |
| 6/21/2015 | 2180 | 3702 | See Sheet 2 | See Sheet 3 | 1066.02 | 520.17 | 5.73 | 203.32 | 209.39 | 2.31 | See Sheet 4 | Not Available | 1946.01 | 10.22 | 0.00 | 0.00 | 0.00 | 2.75 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/22/2015 | 2237 | 3799 | See Sheet 2 | See Sheet 3 | 963.10 | 485.15 | 5.21 | 177.28 | 182.53 | 1.96 | See Sheet 4 | Not Available | 1931.53 | 10.28 | 0.04 | 0.42 | 0.05 | 2.39 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/23/2015 | 2029 | 3447 | See Sheet 2 | See Sheet 3 | 1084.90 | 514.12 | 6.08 | 173.29 | 178.48 | 2.11 | See Sheet 4 | Not Available | 1939.91 | 9.65 | 0.00 | 0.00 | 0.05 | 2.44 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/24/2015 | 1772 | 3010 | See Sheet 2 | See Sheet 3 | 1058.62 | 515.67 | 6.05 | 168.46 | 178.36 | 2.09 | See Sheet 4 | Not Available | 1983.04 | 8.32 | 0.00 | 0.00 | 0.30 | 2.33 | See Sheet 2 | N/A | 20.80 | 15.00 |
| 6/25/2015 | 2264 | 3845 | See Sheet 2 | See Sheet 3 | 1080.50 | 530.47 | 5.62 | 180.09 | 182.38 | 1.93 | See Sheet 4 | Not Available | 1959.94 | 10.26 | 0.00 | 0.00 | 0.00 | 1.89 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/26/2015 | 2206 | 3746 | See Sheet 2 | See Sheet 3 | 945.22 | 459.99 | 5.01 | 193.83 | 199.15 | 2.17 | See Sheet 4 | Not Available | 1922.72 | 10.04 | 0.11 | 0.00 | 0.00 | 2.46 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 6/27/2015 | 2121 | 3602 | See Sheet 2 | See Sheet 3 | 917.84 | 438.00 | 4.96 | 199.40 | 204.79 | 2.32 | See Sheet 4 | Not Available | 1913.27 | 9.63 | 0.28 | 0.00 | 0.00 | 2.61 | See Sheet 2 | N/A | 24.00 | 14.00 |
| 6/28/2015 | 2208 | 3750 | INVALID DATA | | | | | | | | | | | | | | | | | Inlet NOx Monitor Malfunction | 24.00 | 0.00 |
| 6/29/2015 | 2177 | 3697 | See Sheet 2 | See Sheet 3 | 771.15 | 389.29 | 4.29 | 165.85 | 164.97 | 1.82 | See Sheet 4 | Not Available | 1900.05 | 9.17 | 0.58 | 0.65 | 0.00 | 3.46 | See Sheet 2 | N/A | 24.00 | 15.00 |
| 6/30/2015 | 2197 | 3732 | See Sheet 2 | See Sheet 3 | 911.59 | 459.56 | 5.02 | 173.64 | 180.65 | 1.97 | See Sheet 4 | Not Available | 1907.69 | 9.20 | 0.57 | 0.42 | 0.00 | 3.12 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 7/1/2015 | 2248 | 3817 | See Sheet 2 | See Sheet 3 | 923.65 | 462.76 | 4.94 | 149.77 | 155.05 | 1.66 | See Sheet 4 | Not Available | 1937.13 | 9.11 | 0.39 | 0.55 | 0.00 | 2.74 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 7/2/2015 | 2279 | 3871 | See Sheet 2 | See Sheet 3 | 867.90 | 435.21 | 4.58 | 155.55 | 156.67 | 1.65 | See Sheet 4 | Not Available | 1920.82 | 9.05 | 0.00 | 1.18 | 0.00 | 2.60 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 7/3/2015 | 2288 | 3885 | See Sheet 2 | See Sheet 3 | 776.35 | 387.26 | 4.06 | 165.02 | 173.59 | 1.82 | See Sheet 4 | Not Available | 1933.48 | 9.08 | 0.35 | 1.11 | 0.00 | 2.47 | See Sheet 2 | N/A | 24.00 | 21.00 |
| 7/4/2015 | 2269 | 3853 | See Sheet 2 | See Sheet 3 | 812.37 | 405.92 | 4.29 | 141.57 | 146.17 | 1.55 | See Sheet 4 | Not Available | 1918.63 | 9.12 | 0.39 | 1.18 | 0.01 | 2.68 | See Sheet 2 | N/A | 24.00 | 18.00 |
| 7/5/2015 | 2259 | 3837 | See Sheet 2 | See Sheet 3 | 865.89 | 442.52 | 4.70 | 152.31 | 162.99 | 1.73 | See Sheet 4 | Not Available | 1942.11 | 9.28 | 0.45 | 0.94 | 0.00 | 2.92 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 7/6/2015 | 2281 | 3874 | INVALID DATA | | | | | | | | | | | | | | | | | Probe malfunct., Low suction alarm | 24.00 | 0.00 |
| 7/7/2015 | 2261 | 3841 | INVALID DATA | | | | | | | | | | | | | | | | | Probe malfunct., High O2 | 24.00 | 22.00 |
| 7/8/2015 | 2277 | 3867 | INVALID DATA | | | | | | | | | | | | | | | | | Probe malfunct., High O2 | 24.00 | 0.00 |
| 7/9/2015 | 2293 | 3894 | INVALID DATA | | | | | | | | | | | | | | | | | Probe out for repair | 24.00 | 0.00 |
| 7/10/2015 | 2250 | 3822 | INVALID DATA | | | | | | | | | | | | | | | | | Probe out for repair | 24.00 | 0.00 |
| 7/11/2015 | 374 | 636 | INVALID DATA | | | | | | | | | | | | | | | | | Probe out for repair | 5.33 | 0.00 |
| 7/12-8/4/15 | 0 | 0 | KILN DOWN | | | | | | | | | | | | | | | | | | | |
| 8/5/2015 | 0 | 0 | KILN DOWN, KILN START-UP | | | | | | | | | | | | | | | | | N/A | 3.00 | 0.00 |
| 8/6/2015 | 1648 | 2798 | See Sheet 2 | See Sheet 3 | 878.36 | 428.02 | 5.74 | 183.64 | 194.20 | 2.60 | See Sheet 4 | Not Available | 1897.69 | 7.82 | 0.10 | 0.00 | 0.34 | 3.75 | See Sheet 2 | N/A | 22.08 | 12.00 |
| 8/7/2015 | 2245 | 3812 | See Sheet 2 | See Sheet 3 | 874.81 | 438.59 | 4.69 | 162.29 | 163.77 | 1.75 | See Sheet 4 | Not Available | 1981.10 | 9.70 | 0.09 | 0.45 | 0.00 | 2.98 | See Sheet 2 | N/A | 24.00 | 24.00 |

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8/8/2015 | 2064 | 3505 | See Sheet 2 | See Sheet 3 | 792.82 | 376.43 | 4.38 | 142.14 | 136.90 | 1.59 | See Sheet 4 | Not Available | 1994.84 | 9.30 | 0.10 | 0.32 | 0.00 | 3.00 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/9/2015 | 1384 | 2350 | See Sheet 2 | See Sheet 3 | 837.63 | 400.34 | 4.57 | 147.52 | 145.11 | 1.66 | See Sheet 4 | Not Available | 1991.66 | 6.46 | 0.00 | 0.00 | 0.32 | 2.74 | See Sheet 2 | N/A | 15.78 | 14.00 |
| 8/10/2015 | 2152 | 3655 | See Sheet 2 | See Sheet 3 | 915.47 | 424.42 | 4.73 | 162.13 | 154.05 | 1.72 | See Sheet 4 | Not Available | 1947.44 | 9.63 | 0.00 | 0.00 | 0.00 | 2.67 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/11/2015 | 1733 | 2944 | See Sheet 2 | See Sheet 3 | 852.71 | 397.37 | 4.91 | 176.14 | 153.94 | 1.90 | See Sheet 4 | Not Available | 1937.57 | 7.71 | 0.15 | 0.23 | 0.15 | 3.10 | See Sheet 2 | N/A | 21.42 | 13.00 |
| 8/12/2015 | 2032 | 3451 | See Sheet 2 | See Sheet 3 | 876.15 | 437.26 | 5.17 | 116.34 | 115.21 | 1.36 | See Sheet 4 | Not Available | 1952.43 | 8.03 | 0.45 | 1.19 | 0.00 | 2.82 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/13/2015 | 1967 | 3340 | See Sheet 2 | See Sheet 3 | 955.40 | 453.57 | 5.53 | 139.25 | 126.30 | 1.54 | See Sheet 4 | Not Available | 1968.13 | 8.25 | 0.25 | 0.78 | 0.00 | 2.59 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/14/2015 | 1884 | 3199 | See Sheet 2 | See Sheet 3 | 883.50 | 422.10 | 5.38 | 133.58 | 123.23 | 1.57 | See Sheet 4 | Not Available | 1972.99 | 8.01 | 0.36 | 0.74 | 0.05 | 3.76 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/15/2015 | 1939 | 3294 | See Sheet 2 | See Sheet 3 | 847.50 | 415.37 | 5.14 | 130.44 | 128.76 | 1.59 | See Sheet 4 | Not Available | 1963.81 | 7.53 | 0.44 | 0.83 | 0.05 | 3.65 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/16/2015 | 1871 | 3178 | See Sheet 2 | See Sheet 3 | 783.82 | 389.10 | 4.99 | 143.55 | 147.72 | 1.89 | See Sheet 4 | Not Available | 1957.70 | 7.70 | 0.44 | 0.78 | 0.00 | 3.48 | See Sheet 2 | N/A | 24.00 | 15.00 |
| 8/17/2015 | 1121 | 1903 | INVALID DATA | | | | | | | | | | | | | | | | | Probe out, High Water Temp Alarm | 15.17 | 0.00 |
| 8/18/2015 | 1109 | 1884 | INVALID DATA | | | | | | | | | | | | | | | | | Probe out, High Water Temp Alarm | 15.50 | 0.00 |
| 8/19/2015 | 902 | 1532 | See Sheet 2 | See Sheet 3 | 994.20 | 500.06 | 5.68 | 164.27 | 157.34 | 1.79 | See Sheet 4 | Not Available | 1953.01 | 3.87 | 0.12 | 0.19 | 0.57 | 2.94 | See Sheet 2 | N/A | 10.25 | 9.00 |
| 8/20/2015 | 2172 | 3689 | See Sheet 2 | See Sheet 3 | 852.88 | 423.23 | 4.68 | 166.78 | 165.24 | 1.83 | See Sheet 4 | Not Available | 1889.70 | 8.14 | 0.40 | 1.00 | 0.01 | 3.05 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/21/2015 | 1662 | 2822 | See Sheet 2 | See Sheet 3 | 793.03 | 364.92 | 5.27 | 135.42 | 126.55 | 1.83 | See Sheet 4 | Not Available | 1928.06 | 7.19 | 0.43 | 1.02 | 0.00 | 3.51 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/22/2015 | 1662 | 2822 | See Sheet 2 | See Sheet 3 | 916.26 | 437.42 | 6.32 | 164.65 | 162.00 | 2.34 | See Sheet 4 | Not Available | 1897.20 | 7.93 | 0.26 | 0.67 | 0.00 | 2.89 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/23/2015 | 1820 | 3091 | See Sheet 2 | See Sheet 3 | 859.60 | 408.16 | 5.38 | 173.57 | 166.56 | 2.20 | See Sheet 4 | Not Available | 1880.05 | 8.05 | 0.25 | 0.72 | 0.00 | 2.21 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/24/2015 | 1778 | 3020 | See Sheet 2 | See Sheet 3 | 940.81 | 452.90 | 6.11 | 153.93 | 146.34 | 1.98 | See Sheet 4 | Not Available | 1909.50 | 8.05 | 0.44 | 0.54 | 0.00 | 2.34 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/25/2015 | 1781 | 3026 | See Sheet 2 | See Sheet 3 | 868.76 | 424.20 | 5.71 | 154.18 | 155.39 | 2.09 | See Sheet 4 | Not Available | 1940.78 | 7.76 | 0.58 | 0.73 | 0.00 | 2.88 | See Sheet 2 | N/A | 24.00 | 0.00 |
| 8/26/2015 | 1800 | 3058 | See Sheet 2 | See Sheet 3 | 857.16 | 424.52 | 5.66 | 152.62 | 152.29 | 2.03 | See Sheet 4 | Not Available | 1913.90 | 7.91 | 0.70 | 0.52 | 0.00 | 3.40 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/27/2015 | 1712 | 2907 | See Sheet 2 | See Sheet 3 | 882.00 | 423.35 | 5.94 | 158.03 | 155.50 | 2.18 | See Sheet 4 | Not Available | 1902.15 | 7.57 | 0.86 | 0.49 | 0.02 | 3.11 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/28/2015 | 1797 | 3053 | See Sheet 2 | See Sheet 3 | 894.69 | 443.60 | 5.92 | 152.37 | 154.86 | 2.07 | See Sheet 4 | Not Available | 1909.50 | 8.21 | 0.66 | 0.28 | 0.00 | 2.34 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/29/2015 | 1787 | 3034 | See Sheet 2 | See Sheet 3 | 871.00 | 431.04 | 5.79 | 143.10 | 143.10 | 1.92 | See Sheet 4 | Not Available | 2112.93 | 7.93 | 0.80 | 0.44 | 0.00 | 3.06 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/30/2015 | 1755 | 2981 | See Sheet 2 | See Sheet 3 | 931.96 | 462.99 | 6.33 | 145.41 | 145.20 | 1.99 | See Sheet 4 | Not Available | 2580.60 | 7.81 | 0.85 | 0.56 | 0.00 | 3.38 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 8/31/2015 | 1755 | 2981 | See Sheet 2 | See Sheet 3 | 970.23 | 486.84 | 6.66 | 148.54 | 155.56 | 2.13 | See Sheet 4 | Not Available | 2368.03 | 8.09 | 0.67 | 0.47 | 0.00 | 3.68 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 9/1/2015 | 1956 | 3323 | See Sheet 2 | See Sheet 3 | 870.05 | 393.86 | 4.83 | 154.58 | 133.18 | 1.63 | See Sheet 4 | Not Available | 1941.33 | 8.17 | 0.15 | 0.00 | 0.00 | 3.07 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 9/2/2015 | 1858 | 3155 | See Sheet 2 | See Sheet 3 | 814.75 | 397.62 | 4.75 | 159.24 | 151.13 | 1.80 | See Sheet 4 | Not Available | 1915.20 | 7.74 | 0.00 | 0.00 | 0.05 | 3.65 | See Sheet 2 | N/A | 22.17 | 21.00 |
| 9/3/2015 | 1787 | 3034 | See Sheet 2 | See Sheet 3 | 835.52 | 379.75 | 5.10 | 164.33 | 148.02 | 1.99 | See Sheet 4 | Not Available | 1840.86 | 7.46 | 0.53 | 0.00 | 0.00 | 4.40 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 9/4/2015 | 2086 | 3543 | See Sheet 2 | See Sheet 3 | 860.06 | 422.35 | 4.86 | 187.39 | 184.87 | 2.13 | See Sheet 4 | Not Available | 1892.37 | 8.96 | 0.41 | 0.00 | 0.00 | 4.59 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 9/5/2015 | 2004 | 3404 | See Sheet 2 | See Sheet 3 | 797.86 | 391.01 | 4.68 | 178.61 | 173.57 | 2.08 | See Sheet 4 | Not Available | 1940.56 | 8.96 | 0.18 | 0.00 | 0.00 | 5.35 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 9/6/2015 | 2069 | 3514 | See Sheet 2 | See Sheet 3 | 828.99 | 412.00 | 4.78 | 170.22 | 161.75 | 1.88 | See Sheet 4 | Not Available | 1970.42 | 9.01 | 0.58 | 0.00 | 0.00 | 5.27 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 9/7/2015 | 2033 | 3453 | See Sheet 2 | See Sheet 3 | 810.51 | 402.75 | 4.75 | 174.67 | 164.45 | 1.94 | See Sheet 4 | Not Available | 1918.63 | 8.83 | 0.00 | 0.00 | 0.00 | 5.42 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 9/8/2015 | 671 | 1139 | See Sheet 2 | See Sheet 3 | 781.69 | 390.31 | 11.98 | 160.83 | 169.32 | 5.20 | See Sheet 4 | Not Available | 1900.29 | 3.44 | 0.00 | 0.00 | 0.20 | 6.23 | See Sheet 2 | N/A | 20.58 | 7.00 |
| 9/9/2015 | 1043 | 1771 | See Sheet 2 | See Sheet 3 | 764.19 | 370.74 | 8.05 | 198.17 | 188.23 | 4.09 | See Sheet 4 | Not Available | 1938.39 | 4.97 | 0.66 | 0.00 | 0.33 | 6.09 | See Sheet 2 | N/A | 22.65 | 5.00 |
| 9/10/2015 | 1656 | 2813 | See Sheet 2 | See Sheet 4 | 676.08 | 329.26 | 4.13 | 194.12 | 195.82 | 2.45 | See Sheet 4 | Not Available | 1959.11 | 7.30 | 0.64 | 0.00 | 0.08 | 6.73 | See Sheet 2 | N/A | 20.75 | 17.00 |
| 9/11/2015 | 2060 | 3499 | INVALID DATA | | | | | | | | | | | | | | | | | Probe malfunction - High O2 | 24.00 | 0.00 |
| 9/12/2015 | 2102 | 3569 | INVALID DATA | | | | | | | | | | | | | | | | | Probe malfunction - High O2 | 24.00 | 0.00 |
| 9/13/2015 | 2010 | 3413 | INVALID DATA | | | | | | | | | | | | | | | | | Probe malfunction - High O2 | 24.00 | 0.00 |
| 9/14/2015 | 2070 | 3515 | INVALID DATA | | | | | | | | | | | | | | | | | Probe malfunction - High O2 | 24.00 | 0.00 |
| 9/15/2015 | 1942 | 3297 | See Sheet 2 | See Sheet 3 | 888.40 | 448.35 | 5.54 | 150.02 | 165.28 | 2.04 | See Sheet 4 | Not Available | 1935.51 | 8.42 | 0.69 | 0.00 | 0.00 | 4.01 | See Sheet 2 | N/A | 24.00 | 11.00 |
| 9/16/2015 | 1857 | 3153 | See Sheet 2 | See Sheet 3 | 898.53 | 448.66 | 5.80 | 162.22 | 162.98 | 2.11 | See Sheet 4 | Not Available | 1998.70 | 8.69 | 0.75 | 0.00 | 0.00 | 3.88 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 9/17/2015 | 533 | 905 | See Sheet 2 | See Sheet 3 | 1008.99 | 501.88 | 8.64 | 190.53 | 199.64 | 3.44 | See Sheet 4 | Not Available | 2004.45 | 3.32 | 0.03 | 0.00 | 0.28 | 3.44 | See Sheet 2 | N/A | 9.17 | 6.00 |
| 9/18-10/6/15 | | | KILN DOWN | | | | | | | | | | | | | | | | | | | |
| 10/7/2015 | 119 | 203 | KILN DOWN, KILN START-UP | | | | | | | | | | | | | | | | | N/A | 1.00 | 0.00 |
| 10/8/2015 | 1053 | 1789 | See Sheet 2 | See Sheet 3 | 816.92 | 343.89 | 5.36 | 221.55 | 166.76 | 2.60 | See Sheet 4 | Not Available | 1954.95 | 5.35 | 0.00 | 0.00 | 0.57 | 3.45 | See Sheet 2 | N/A | 16.42 | 6.00 |
| 10/9/2015 | 1990 | 3379 | See Sheet 2 | See Sheet 3 | 1013.50 | 467.88 | 5.64 | 203.75 | 183.10 | 2.21 | See Sheet 4 | Not Available | 2002.36 | 8.79 | 0.00 | 0.00 | 0.07 | 2.21 | See Sheet 2 | N/A | 24.00 | 12.00 |
| 10/10/2015 | 1776 | 3016 | INVALID DATA | | | | | | | | | | | | | | | | | Data Logger Malfunction | 22.58 | 0.00 |
| 10/11/2015 | 2192 | 3723 | See Sheet 2 | See Sheet 3 | 916.59 | 481.43 | 5.27 | 167.12 | 170.59 | 1.87 | See Sheet 4 | Not Available | 2012.79 | 9.36 | 0.76 | 0.00 | 0.00 | 3.30 | See Sheet 2 | N/A | 24.00 | 13.00 |
| 10/12/2015 | 2045 | 3473 | See Sheet 2 | See Sheet 3 | 897.07 | 456.68 | 5.36 | 167.19 | 177.73 | 2.09 | See Sheet 4 | Not Available | 2043.61 | 8.85 | 0.89 | 0.00 | 0.02 | 3.53 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/13/2015 | 2033 | 3452 | See Sheet 2 | See Sheet 3 | 881.80 | 440.49 | 5.20 | 155.00 | 157.41 | 1.86 | See Sheet 4 | Not Available | 2091.96 | 8.72 | 0.73 | 0.00 | 0.00 | 3.31 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/14/2015 | 2121 | 3603 | See Sheet 2 | See Sheet 3 | 903.67 | 473.60 | 5.36 | 147.46 | 159.30 | 1.80 | See Sheet 4 | Not Available | 2067.37 | 9.07 | 0.77 | 0.00 | 0.00 | 3.51 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/15/2015 | 2053 | 3486 | See Sheet 2 | See Sheet 3 | 799.00 | 413.70 | 4.84 | 146.38 | 162.75 | 1.90 | See Sheet 4 | Not Available | 2044.77 | 8.62 | 0.67 | 0.00 | 0.17 | 4.56 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/16/2015 | 2148 | 3649 | See Sheet 2 | See Sheet 3 | 869.45 | 449.10 | 5.02 | 134.82 | 149.82 | 1.67 | See Sheet 4 | Not Available | 2026.45 | 9.20 | 0.70 | 0.00 | 0.00 | 3.51 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/17/2015 | 1975 | 3354 | See Sheet 2 | See Sheet 3 | 781.12 | 385.18 | 4.68 | 129.17 | 145.02 | 1.76 | See Sheet 4 | Not Available | 2040.23 | 8.56 | 0.49 | 0.00 | 0.01 | 4.02 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/18/2015 | 2202 | 3741 | See Sheet 2 | See Sheet 3 | 897.33 | 463.55 | 5.05 | 148.30 | 177.45 | 1.93 | See Sheet 4 | Not Available | 2017.56 | 9.48 | 0.61 | 0.00 | 0.00 | 3.08 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/19/2015 | 2001 | 3398 | See Sheet 2 | See Sheet 3 | 950.16 | 477.92 | 5.73 | 131.58 | 147.36 | 1.77 | See Sheet 4 | Not Available | 2033.49 | 8.87 | 0.48 | 0.00 | 0.12 | 3.81 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/20/2015 | 1305 | 2217 | See Sheet 2 | See Sheet 3 | 1009.73 | 511.69 | 5.93 | 137.31 | 146.58 | 1.70 | See Sheet 4 | Not Available | 2047.27 | 6.18 | 0.35 | 0.00 | 0.16 | 3.23 | See Sheet 2 | N/A | 15.12 | 12.00 |
| 10/21/2015 | 2123 | 3605 | See Sheet 2 | See Sheet 3 | 967.11 | 481.00 | 5.44 | 150.32 | 165.17 | 1.87 | See Sheet 4 | Not Available | 2047.14 | 9.31 | 0.57 | 0.00 | 0.00 | 3.14 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/22/2015 | 2192 | 3722 | See Sheet 2 | See Sheet 3 | 959.61 | 494.86 | 5.42 | 152.47 | 169.05 | 1.85 | See Sheet 4 | Not Available | 2034.03 | 9.38 | 0.69 | 0.00 | 0.00 | 2.75 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/23/2015 | 2156 | 3662 | See Sheet 2 | See Sheet 3 | 1013.64 | 517.73 | 5.76 | 159.14 | 183.67 | 2.04 | See Sheet 4 | Not Available | 2025.11 | 9.42 | 0.50 | 0.00 | 0.00 | 3.34 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/24/2015 | 2116 | 3593 | See Sheet 2 | See Sheet 3 | 966.36 | 497.88 | 5.61 | 162.66 | 186.38 | 2.10 | See Sheet 4 | Not Available | 1991.59 | 9.58 | 0.61 | 0.00 | 0.00 | 3.32 | See Sheet 2 | N/A | 23.83 | 23.00 |
| 10/25/2015 | 1677 | 2848 | See Sheet 2 | See Sheet 3 | 1019.29 | 509.00 | 5.64 | 169.77 | 177.83 | 1.97 | See Sheet 4 | Not Available | 1987.43 | 7.13 | 0.42 | 0.00 | 0.22 | 3.30 | See Sheet 2 | N/A | 18.58 | 18.00 |
| 10/26/2015 | 2116 | 3593 | See Sheet 2 | See Sheet 3 | 910.63 | 457.38 | 5.19 | 181.59 | 194.33 | 2.20 | See Sheet 4 | Not Available | 2007.74 | 9.57 | 0.46 | 0.00 | 0.00 | 3.68 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/27/2015 | 723 | 1227 | See Sheet 2 | See Sheet 3 | 688.17 | 295.39 | 4.82 | 145.00 | 134.15 | 2.19 | See Sheet 4 | Not Available | 1965.68 | 4.21 | 0.00 | 0.00 | 0.48 | 5.05 | See Sheet 2 | N/A | 11.78 | 2.00 |
| 10/28/2015 | 1887 | 3206 | See Sheet 2 | See Sheet 3 | 631.85 | 296.43 | 3.77 | 126.11 | 119.09 | 1.51 | See Sheet 4 | Not Available | 2037.58 | 8.52 | 0.46 | 0.00 | 0.04 | 3.68 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/29/2015 | 2073 | 3521 | See Sheet 2 | See Sheet 3 | 779.12 | 397.69 | 4.60 | 143.42 | 123.16 | 1.43 | See Sheet 4 | Not Available | 2039.48 | 9.33 | 0.20 | 0.00 | 0.00 | 3.86 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 10/30/2015 | 1948 | 3308 | See Sheet 2 | See Sheet 3 | 889.73 | 441.68 | 5.44 | 152.45 | 164.37 | 2.03 | See Sheet 4 | Not Available | 2031.50 | 9.05 | 0.47 | 0.00 | 0.00 | 2.33 | See Sheet 2 | N/A | 24.00 | 13.00 |
| 10/31/2015 | 1937 | 3289 | INVALID DATA | | | | | | | | | | | | | | | | | Probe out, High Water Temp Alarm | 24.00 | 0.00 |
| 11/1/2015 | 1933 | 3282 | INVALID DATA | | | | | | | | | | | | | | | | | Probe out, High Water Temp Alarm | 24.00 | 0.00 |
| 11/2/2015 | 1973 | 3350 | INVALID DATA | | | | | | | | | | | | | | | | | Probe out, High Water Temp Alarm | 24.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11/3/2015 | 1941 | 3297 | See Sheet 2 | See Sheet 3 | 1004.00 | 482.95 | 5.97 | 121.92 | 126.79 | 1.57 | See Sheet 4 | Not Available | 1784.41 | 9.43 | 0.00 | 0.00 | 0.00 | 2.10 | See Sheet 2 | N/A | 24.00 | 10.00 |
| 11/4/2015 | 1986 | 3372 | See Sheet 2 | See Sheet 3 | 902.98 | 449.97 | 5.44 | 124.98 | 130.36 | 1.58 | See Sheet 4 | Not Available | 1807.22 | 9.12 | 0.57 | 0.00 | 0.00 | 2.58 | See Sheet 2 | N/A | 24.00 | 18.00 |
| 11/5/2015 | 2146 | 3644 | See Sheet 2 | See Sheet 3 | 832.84 | 436.75 | 4.89 | 115.86 | 123.47 | 1.38 | See Sheet 4 | Not Available | 1820.88 | 9.92 | 0.19 | 0.00 | 0.00 | 3.10 | See Sheet 2 | N/A | 24.00 | 21.00 |
| 11/6/2015 | 2176 | 3695 | See Sheet 2 | See Sheet 3 | 826.40 | 442.95 | 4.89 | 114.55 | 122.51 | 1.35 | See Sheet 4 | Not Available | 1856.05 | 9.69 | 0.45 | 0.00 | 0.00 | 3.56 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 11/7/2015 | 2125 | 3609 | INVALID DATA | | | | | | | | | | | | | | | | | Probe out, High Water Temp Alarm | 24.00 | 0.00 |
| 11/8/2015 | 2163 | 3673 | INVALID DATA | | | | | | | | | | | | | | | | | Probe out, High Water Temp Alarm | 24.00 | 0.00 |
| 11/9/2015 | 2220 | 3771 | See Sheet 2 | See Sheet 3 | 975.55 | 531.55 | 5.75 | 162.46 | 173.07 | 1.87 | See Sheet 4 | Not Available | 1754.65 | 9.81 | 0.66 | 0.00 | 0.00 | 3.62 | See Sheet 2 | N/A | 24.00 | 10.00 |
| 11/10/2015 | 2152 | 3656 | See Sheet 2 | See Sheet 3 | 1028.80 | 556.01 | 6.20 | 158.25 | 187.98 | 2.10 | See Sheet 4 | Not Available | 1757.69 | 9.75 | 0.66 | 0.00 | 0.00 | 3.82 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 11/11/2015 | 2194 | 3727 | See Sheet 2 | See Sheet 3 | 988.39 | 536.30 | 5.87 | 157.80 | 191.32 | 2.09 | See Sheet 4 | Not Available | 1736.91 | 9.68 | 0.45 | 0.00 | 0.00 | 3.58 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 11/12/2015 | 2103 | 3572 | See Sheet 2 | See Sheet 3 | 971.85 | 511.71 | 5.84 | 172.36 | 203.26 | 2.32 | See Sheet 4 | Not Available | 1771.52 | 9.36 | 0.55 | 0.00 | 0.01 | 4.00 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 11/13/2015 | 2055 | 3491 | See Sheet 2 | See Sheet 3 | 907.53 | 478.67 | 5.59 | 161.24 | 183.11 | 2.14 | See Sheet 4 | Not Available | 1774.81 | 8.91 | 0.60 | 0.00 | 0.00 | 4.69 | See Sheet 2 | N/A | 24.00 | 24.00 |
| 11/14/2015 | 2052 | 3486 | See Sheet 2 | See Sheet 3 | 962.13 | 515.55 | 6.03 | 164.92 | 205.69 | 2.41 | See Sheet 4 | Not Available | 1768.32 | 9.22 | 0.51 | 0.00 | 0.00 | 4.06 | See Sheet 2 | N/A | 24.00 | 14.00 |
| 11/15/2015 | 2280 | 3872 | INVALID DATA | | | | | | | | | | | | | | | | | Inlet NOx Monitor Malfunction | 24.00 | 0.00 |
| 11/16/2015 | 2143 | 3640 | INVALID DATA | | | | | | | | | | | | | | | | | Inlet NOx Monitor Malfunction | 24.00 | 0.00 |
| 11/17-12/9/15 | N/A | N/A | INVALID DATA | | | | | | | | | | | | | | | | | Gas Cooler Malfunction | N/A | N/A |

(1) Dragon does not monitor "burning zone temperature." The closest temperature monitor to the burning zone is located at the kiln feed shelf (See Condition 7.a.viii).

(2) Dragon does not monitor kiln, kiln back end, or feed shelf oxygen. Data provided for this condition represents oxygen monitored located at the calciner.

# ATTACHMENT 2

*Dragon Products Company, LLC*

*Raw Mill Status and Startup, Shut-down, and Malfunction Logs*

**Dragon Products Company, LLC**
**USEPA and Dragon Products Company, LLC**
**Consent Agreement and Final Order**
**Attachment I: Condition 7: Demonstration Period Data Collection**

**Sheet 2: Raw Mill Status and Kiln Startup, Shut-down, and Malfunction Logs**

| DATE | KILN | | | | | | | RAW MILL | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Start up Start | Start up End | Shut down start | Shut down end | Malf. Start | Malf. End | REASON | UP | DOWN | REASON |
| 12/9/2014 | | | | | | | | | 13:35:00 | |
| | | | | | | | | 14:19:00 | 18:14:00 | Vibration (unplanned) |
| | | | | | | | | 22:25:00 | | |
| | | | | | | | | | 02:06:00 | Vibration (unplanned) |
| | | | | | | | | 02:18:00 | 02:34:00 | Vibration (unplanned) |
| | | | | | | | | 03:37:00 | 03:43:00 | Vibration (unplanned) |
| | | | | | | | | 04:05:00 | 04:28:00 | R513 elevator outlet plugged (unplanned) |
| | | | | | | | | 04:41:00 | 08:58:00 | R502 pull cord (unplanned) |
| | | | | | | | | 09:04:00 | 11:13:00 | Vibration (unplanned) |
| | | | | | | | | 11:29:00 | 12:14:00 | Vibration (unplanned) |
| | | | | | | | | 12:37:00 | 19:39:00 | Vibration (unplanned) |
| | | | | | | | | 20:04:00 | 20:09:00 | Vibration (unplanned) |
| | | | | | | | | 20:26:00 | 23:30:00 | Vibration (unplanned) |
| | | | | | | | | 21:16:00 | 21:22:00 | Vibration (unplanned) |
| | | | | | | | | 21:51:00 | 21:55:00 | Vibration (unplanned) |
| | | | | | | | | 22:24:00 | 22:34:00 | Vibration (unplanned) |
| | | | | | | | | 23:13:00 | 23:23:00 | Vibration (unplanned) |
| 12/11/2014 | | | | | 08:11:00 | 11:24:00 | Clinker breaker down | 12:30:00 | 21:34:00 | Cleaning under R315 belt |
| | 11:24:00 | 12:00:00 | | | | | | 22:14:00 | | |
| 12/12/2014 | | | | | 03:02:00 | 13:57:00 | Both hot clinker elevators down | | 03:02:00 | Kiln down (unplanned) |
| | | | | | | | | 15:42:00 | | |
| | 13:57:00 | 15:00:00 | | | | | | | | |
| 12/13/2014 | | | | | | | | | 05:00:00 | Vibration (unplanned) |
| | | | | | | | | 05:11:00 | 08:12:00 | Vibration (unplanned) |
| | | | | | | | | 08:25:00 | 08:43:00 | Vibration (unplanned) |
| | | | | | | | | 09:46:00 | | |
| 12/14/2014 | | | | | | | | | 08:07:00 | R315 pull cord (unplanned) |
| | | | | | | | | 08:29:00 | | |
| 12/15/2014 | | | | | | | | | 02:33:00 | Vibration (unplanned) |
| | | | | | | | | 02:53:00 | | |
| | | | | | | | | | | |
| 12/16/2014 | | | | | | | | | 07:19:00 | Replacing R315B magnet belt (unplanned) |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 15:47:00 | | |
| 12/17/2014 | | | | | | | | | | 03:49:00 | Vibration (unplanned) |
| | | | | | | | | | 03:59:00 | 04:03:00 | Vibration (unplanned) |
| | | | | | | | | | 04:22:00 | 07:21:00 | Vibration (unplanned) |
| | | | | | | | | | 07:31:00 | 10:36:00 | Vibration (unplanned) |
| | | | | | | | | | 10:53:00 | 11:15:00 | Vibration (unplanned) |
| | | | | | | | | | 11:25:00 | | |
| | | | | | | | | | | | |
| | | | | | | | | | | 23:35:00 | Vibration (unplanned) |
| 12/18/2014 | | | | | | | | | 00:00:00 | 00:12:00 | Vibration (unplanned) |
| | | | | | | | | | 00:37:00 | 15:11:00 | Iron ore ran empty (unplanned) |
| | | | | | | | | | 17:08:00 | | |
| 12/19/2014 | | | | | | | | | | 16:48:00 | Blend silo full (planned) |
| | | | | | | | | | 21:03:00 | | |
| 12/20/2014 | | | | | | | | | | 08:36:00 | Vibration (unplanned) |
| | | | | | | | | | 08:58:00 | | |
| 12/21/2014 | | | | | | | | | | 02:53:00 | Blend silo full (planned) |
| | | | | | | | | | 06:47:00 | 21:20:00 | Blend silo full (planned) |
| | | | | | | | | | 23:30:00 | | |
| 12/22/2014 | | | | | | | | | | 16:50:00 | Cleaning under R315 belt (planned) |
| | | | | | | | | | 17:00:00 | 23:43:00 | Posimetric feeder fault (unplanned) |
| | | | | | | | | | 23:55:00 | 23:57:00 | Posimetric feeder fault (unplanned) |
| 12/23/2014 | | | | | | | | | 00:20:00 | 00:22:00 | Blend silo full (planned) |
| | | | | | | | | | 01:04:00 | 05:18:00 | Vibration (unplanned) |
| | | | | | | | | | 05:41:00 | 13:38:00 | Vibration (unplanned) |
| | | | | | | | | | 13:53:00 | | |
| 12/24/2014 | | | | | | | | | | 07:20:00 | Blend silo full (planned) |
| | | | | | | | | | 11:50:00 | 15:10:00 | Vibration (unplanned) |
| | | | | | | | | | 15:39:00 | 18:06:00 | Vibration (unplanned) |
| | | | | | | | | | 18:17:00 | 21:15:00 | Vibration (unplanned) |
| | | | | | | | | | 21:27:00 | 22:18:00 | Vibration (unplanned) |
| | | | | | | | | | 22:36:00 | | |
| 12/25/2014 | | | | | | | | | | 20:00:00 | Blend silo full (planned) |
| | | | | | | | | | 21:57:00 | | |
| 12/26/2014 | | | | | | | | | | 07:30:00 | R513 tripped off (unplanned) |
| | | | | | | | | | 08:14:00 | 17:45:00 | Vibration (unplanned) |
| | | | | | | | | | 21:32:00 | | |
| 12/27/2014 | | | | | | | | | | | |
| 12/28/2014 | | | | | | | | | | | |
| 12/29/2014 | | | | 04:59:00 | 05:30:00 | | | Planned Shutdown | | 01:32:00 | Ran out of rock (planned) Feed off 04:59 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| 3/28/2015 | 01:30:00 | 02:17:00 | | | | | | | 21:43:00 | 23:48:00 | Vibration (unplanned) |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 08:10:00 | 11:52:00 | Coal mill lube | 23:59:00 | | |
| | 11:52:00 | 12:52:00 | | | | | | | | |
| | | | | | 13:21:00 | 18:40:00 | Pfister feeder issue | | | |
| | 18:40:00 | 19:40:47 | | | | | | | | |
| 3/29/2015 | | | | | | | | | 00:15:00 | Vibration (unplanned) |
| | | | | | | | | 00:38:00 | 00:43:00 | Bolt surge bin door (planned) |
| | | | | | | | | 02:44:00 | 03:04:00 | R508A rotary feeder tripped (unplanned) |
| | | | | | | | | 03:45:00 | | |
| 3/30/2015 | | | 13:51:00 | 14:51:00 | | | Pfister feeder plug, lost coal mill | | 13:48:00 | Kiln down (unplanned) Feed off 13:51 |
| | | | | | | | | | | |
| 4/1/2015 | 02:10:53 | 02:36:54 | | | | | | 03:07:00 | 06:11:00 | Vibration (unplanned) |
| | | | | | | | | 06:36:00 | 15:06:00 | Vibration (unplanned) |
| | | | | | | | | 17:04:00 | | |
| 4/2/2015 | | | | | 04:09:00 | 10:20:00 | Coal mill overloaded | | 02:14:00 | Vibration (unplanned) |
| | 10:20:00 | 11:54:37 | | | | | | 02:33:00 | 02:35:00 | R502 belt overloaded (unplanned) |
| | | | | | | | | 03:42:00 | 05:09:00 | Kiln down Feed off 05:09 |
| | | | | | | | | | | |
| | | | | | | | | 14:52:00 | 15:56:00 | Ran out of rock (planned) |
| | | | | | | | | 16:34:00 | 16:56:00 | Ran out of rock (planned) |
| | | | | | | | | 17:11:00 | 21:37:00 | Fix skirting on R513 belt (planned) |
| | | | | | | | | 21:51:00 | | |
| 4/3/2015 | | | | | | | | | 05:11:00 | Vibration (unplanned) |
| | | | | | | | | 05:24:00 | 05:46:00 | Silo #5 hung up (unplanned) |
| | | | | | | | | 07:38:00 | 07:58:00 | Vibration (unplanned) |
| | | | | | | | | 08:39:00 | 09:01:00 | Vibration (unplanned) |
| | | | | | | | | 09:09:00 | 09:50:00 | |
| | | | | | | | | 10:01:00 | 10:06:00 | Vibration (unplanned) |
| | | | | | | | | 11:27:00 | 12:28:00 | Vibration (unplanned) |
| | | | | | | | | 13:24:00 | 13:45:00 | Plugged air slide R510 (unplanned) |
| | | | | | | | | 14:33:00 | 16:57:00 | Vibration (unplanned) |
| | | | | | | | | 18:47:00 | | |
| 4/4/2015 | | | 19:22:00 | 20:22:00 | | | Cooler vent fan trip - vibration | | 01:34:00 | Silo #5 hung up (planned) |
| | | | | | | | | 02:38:00 | 03:04:00 | Silo #5 hung up (planned) |
| | | | | | | | | 03:23:00 | 04:56:00 | Vibration / Silo #5 hung up (unplanned) |
| | | | | | | | | 07:35:00 | 08:18:00 | Lost conditioning tower water spray (unplanned) |
| | | | | | | | | 08:31:00 | 19:57:00 | Kiln down Feed off 20:22 |
| 4/5/2015 | | | | | | | | | | |
| 4/6/2015 | 20:05:00 | 20:30:00 | | | | | | 20:50:00 | | |
| | | | | | 17:44:00 | 20:00:00 | Kiln drives trip | | | |
| | 20:00:00 | 20:30:00 | | | | | | | | |
| 4/7/2015 | | | | | 06:35:00 | 10:25:00 | Maintenance on K652 kiln fan | | 02:57:00 | Vibration (unplanned) |
| | 10:25:00 | 11:27:00 | | | | | | 03:19:00 | 06:33:00 | Kiln down (planned) Feed off |
| | | | | | | | | 10:56:00 | 18:28:00 | Vibration (unplanned) |
| | | | | | | | | 18:42:00 | 19:26:00 | Plugged air slide R510 (unplanned) |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 19:36:00 | 21:06:00 | R502 belt overloaded (unplanned) |
| | | | | | | | | 21:39:00 | 22:41:00 | Vibration (unplanned) |
| | | | | | | | | 22:51:00 | 23:16:00 | Vibration (unplanned) |
| | | | | | | | | 23:29:00 | 23:33:00 | Vibration (unplanned) |
| | | | | | | | | 23:53:00 | | |
| 4/8/2015 | | | | | 07:02:00 | 13:28:00 | A-K breaker tripped | | 07:03:00 | Kiln down (unplanned) AK breaker in Tower tripped |
| | 13:28:00 | 14:09:00 | | | | | | | | |
| | | | | | 19:14:00 | 23:45:00 | A-K breaker tripped | 15:40:00 | 18:11:00 | |
| | | | | | | | | | | |
| | | | | | | | | 18:54:00 | | |
| | | | | | | | | | 19:15:00 | Kiln down (unplanned) AK breaker in Tower tripped |
| 4/9/2015 | 23:45:00 | 00:26:20 | | | | | | 00:48:00 | | |
| | | | | | | | | | | |
| 4/10/2015 | | | | | 11:10:00 | 12:29:00 | Feed shelf Thermocouple malfunction | | 01:51:00 | Vibration (unplanned) |
| | 12:29:00 | 13:29:00 | | | | | | 02:34:00 | 04:31:00 | Silo #5 empty (unplanned) |
| | | | | | | | | 06:21:00 | 08:48:00 | Vibration (unplanned) |
| | | | | | | | | 09:21:00 | 09:24:00 | Vibration (unplanned) |
| | | | | | | | | 09:46:00 | 09:59:00 | Vibration (unplanned) Feed off 11:10 |
| | | | | | | | | 20:27:00 | 23:12:00 | R475 RM motor tripped (unplanned) |
| 4/11/2015 | | | | | | | | 00:31:00 | 04:18:00 | Vibration (unplanned) |
| | | | | | | | | 04:35:00 | 11:40:00 | Vibration (unplanned) |
| | | | | | | | | 11:52:00 | 13:36:00 | Vibration (unplanned) |
| | | | | | | | | 13:57:00 | 14:17:00 | Vibration (unplanned) |
| | | | | | | | | 14:24:00 | 14:52:00 | Vibration (unplanned) |
| | | | | | | | | 15:06:00 | 15:17:00 | Vibration (unplanned) |
| | | | | | | | | 15:54:00 | 16:01:00 | Vibration (unplanned) |
| | | | | | | | | 16:36:00 | 21:57:00 | Vibration (unplanned) |
| | | | | | | | | 22:12:00 | 22:15:00 | Vibration (unplanned) |
| | | | | | | | | 22:32:00 | 22:36:00 | Vibration (unplanned) |
| | | | | | | | | 23:47:00 | | |
| 4/12/2015 | | | | | | | | | 03:54:00 | Vibration (unplanned) |
| | | | | | | | | 04:17:00 | 10:08:00 | Vibration (unplanned) |
| | | | | | | | | 10:16:00 | 13:07:00 | Vibration (unplanned) |
| | | | | | | | | 13:19:00 | 13:52:00 | Vibration (unplanned) |
| | | | | | | | | 14:06:00 | 14:17:00 | Vibration (unplanned) |
| | | | | | | | | 14:40:00 | 19:26:00 | Vibration (unplanned) |
| | | | | | | | | 19:49:00 | | |
| 4/13/2015 | | | | | 10:22:00 | 14:13:00 | K817 Kiln feed elevator alignment | | 00:20:00 | Vibration (unplanned) |
| | 14:13:00 | 14:25:00 | | | | | | 00:35:00 | 00:42:00 | Vibration (unplanned) |
| | | | | | | | | 00:58:00 | 01:09:00 | Vibration (unplanned) |
| | | | | | | | | 01:47:00 | 04:34:00 | Out of Iron Ore (planned) |
| | | | | | | | | 09:09:00 | 10:15:00 | Kiln down (Feed off 10:22) |
| | | | | | | | | 14:28:00 | 18:48:00 | Vibration (unplanned) |

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| | | | | | | | | 19:11:00 | 23:39:00 | Vibration (unplanned) |
| 4/14/2015 | | | | | | | | 00:12:00 | 00:26:00 | Vibration (unplanned) |
| | | | | | | | | 00:58:00 | 04:06:00 | Gamma issues (planned) |
| | | | | | | | | 04:28:00 | 09:47:00 | Vibration (unplanned) |
| | | | | | | | | 10:03:00 | 10:05:00 | R477 tripped (unplanned) |
| | | | | | | | | 10:15:00 | 10:16:00 | R477 filter plugged (unplanned) |
| | | | | | | | | 11:07:00 | 11:21:00 | R502 belt overloaded (unplanned) |
| | | | | | | | | 11:51:00 | | |
| 4/15/2015 | | | | | | | | | 07:30:00 | Vibration (unplanned) |
| | | | | | | | | 07:48:00 | 07:59:00 | Vibration (unplanned) |
| | | | | | | | | 08:21:00 | 08:37:00 | Vibration (unplanned) |
| | | | | | | | | 09:51:00 | 10:08:00 | Vibration (unplanned) |
| | | | | | | | | 10:21:00 | 10:57:00 | Vibration (unplanned) |
| | | | | | | | | 11:15:00 | 11:49:00 | Vibration (unplanned) |
| | | | | | | | | 12:07:00 | 12:34:00 | Vibration (unplanned) |
| | | | | | | | | 12:53:00 | 13:02:00 | Vibration (unplanned) |
| | | | | | | | | 13:19:00 | 13:35:00 | Vibration (unplanned) |
| | | | | | | | | 14:10:00 | 14:36:00 | Vibration (unplanned) |
| | | | | | | | | 14:54:00 | | |
| 4/16/2015 | | | | | | | | | 08:10:00 | Down for maintenance (planned) |
| | | | | | | | | 12:54:00 | | |
| 4/17/2015 | | | | | | | | | 06:14:00 | Blend silo full (planned) |
| | | | | | | | | 12:34:00 | 15:33:00 | Vibration (unplanned) |
| | | | | | | | | 16:01:00 | 16:11:00 | Vibration (unplanned) |
| | | | | | | | | 16:28:00 | 16:38:00 | Vibration (unplanned) |
| | | | | | | | | 19:17:00 | 20:49:00 | Vibration (unplanned) |
| | | | | | | | | 21:03:00 | 22:05:00 | Vibration (unplanned) |
| | | | | | | | | 22:19:00 | 22:29:00 | Vibration (unplanned) |
| | | | | | | | | 22:46:00 | 23:03:00 | Vibration (unplanned) |
| | | | | | | | | 23:23:00 | 23:26:00 | Vibration (unplanned) |
| | | | | | | | | 23:50:00 | | |
| 4/18/2015 | | | | | | | | | 01:32:00 | Vibration (unplanned) |
| | | | | | | | | 01:55:00 | 02:21:00 | Vibration (unplanned) |
| | | | | | | | | 02:39:00 | 02:52:00 | Vibration (unplanned) |
| | | | | | | | | 03:13:00 | 03:24:00 | Vibration (unplanned) |
| | | | | | | | | 03:42:00 | 03:57:00 | Vibration (unplanned) |
| | | | | | | | | 04:52:00 | 12:02:00 | Lost motion on R502 (unplanned) |
| | | | | | | | | 12:26:00 | 18:30:00 | Tail alignment R513 (unplanned) |
| | | | | | | | | 18:44:00 | 22:28:00 | Posimetric feeder flushed (unplanned) |
| | | | | | | | | 23:25:00 | | |
| 4/19/2015 | | | | | | | | | 03:30:00 | Vibration (unplanned) |
| | | | | | | | | 03:46:00 | 10:08:00 | Vibration (unplanned) |
| | | | | | | | | 10:59:00 | 14:43:00 | R502 belt overloaded (unplanned) |
| | | | | | | | | 15:38:00 | 16:09:00 | Repaired R502 skirting (planned) |
| | | | | | | | | 20:38:00 | | |

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| 4/20/2015 | | | | | | | | | 01:57:00 | R502 tripped off (unplanned) |
| | | | | | | | | 02:54:00 | | |
| 4/21/2015 | | | | | | | | | 04:29:00 | Down for maintenance inspection (planned) |
| | | | | | | | | | | |
| | | | | | | | | 16:24:00 | 17:57:00 | R502 chute plugged (unplanned) |
| | | | | | | | | 18:34:00 | 21:42:00 | Vibration (unplanned) |
| | | | | | | | | 21:54:00 | 21:57:00 | Vibration (unplanned) |
| | | | | | | | | 22:08:00 | 22:12:00 | R502 overloaded and tripped off (unplanned) |
| | | | | | | | | 23:06:00 | 23:15:00 | Vibration (unplanned) |
| | | | | | | | | 23:35:00 | | |
| 4/22/2015 | | | | | | | | | 01:03:00 | Vibration (unplanned) |
| | | | | | | | | 01:23:00 | 01:54:00 | Vibration (unplanned) |
| | | | | | | | | 02:10:00 | 02:25:00 | Vibration (unplanned) |
| | | | | | | | | 02:40:00 | 03:34:00 | Vibration (unplanned) |
| | | | | | | | | 03:48:00 | 04:19:00 | Vibration (unplanned) |
| | | | | | | | | 05:01:00 | 06:06:00 | Vibration (unplanned) |
| | | | | | | | | 06:21:00 | 06:26:00 | Vibration (unplanned) |
| | | | | | | | | 06:51:00 | 07:01:00 | Vibration (unplanned) |
| | | | | | | | | 07:53:00 | 07:56:00 | Vibration (unplanned) |
| | | | | | | | | 08:59:00 | 13:46:00 | Vibration (unplanned) |
| | | | | | | | | 08:59:00 | 13:46:00 | Vibration (unplanned) |
| | | | | | | | | 14:11:00 | 18:38:00 | Vibration (unplanned) |
| | | | | | | | | 18:53:00 | | |
| 4/23/2015 | | | | | | | | | 00:26:00 | Vibration (unplanned) |
| | | | | | | | | 00:48:00 | 02:21:00 | Vibration (unplanned) |
| | | | | | | | | 02:39:00 | 02:49:00 | Vibration (unplanned) |
| | | | | | | | | 03:04:00 | 03:45:00 | Vibration (unplanned) |
| | | | | | | | | 04:02:00 | 04:48:00 | Down for maintenance (planned) |
| | | | | | | | | 11:56:00 | 20:35:00 | Vibration (unplanned) |
| | | | | | | | | 20:49:00 | 20:52:00 | Vibration (unplanned) |
| 4/24/2015 | | | | | 01:24:00 | | High temp SW trunion Pier #1 | | 00:47:00 | Vibration (unplanned) |
| | 04:04:00 | 04:26:00 | | | | | | 00:57:00 | 01:19:00 | High temp. SW trunion Pier #1 (feed off 01:24) |
| | | | | | | | | 04:21:00 | 08:46:00 | Vibration (unplanned) |
| | | | | | | | | 09:17:00 | 09:21:00 | Vibration (unplanned) |
| | | | | | | | | 09:37:00 | 09:40:00 | Vibration (unplanned) |
| | | | | | | | | 14:02:00 | | |
| 4/25/2015 | | | | | | | | | 11:14:00 | Vibration (unplanned) |
| | | | | | | | | 12:00:00 | 12:15:00 | Vibration (unplanned) |
| | | | | | | | | 13:24:00 | 20:09:00 | Vibration (unplanned) |
| | | | | | | | | 20:21:00 | | |
| 4/26/2015 | | | | | | | | | 06:31:00 | Vibration (unplanned) |
| | | | | | | | | 06:43:00 | 07:02:00 | R502 overloaded and tripped off (unplanned) |

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| 4/27/2015 | | | | | | | |
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| 4/28/2015 | | | | | | | |
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| 4/29/2015 | | | | | | | |
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| 4/30/2015 | | | | | | | |
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| 5/1/2015 | | | | | | | |
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| 5/2/2015 | | | 11:04:00 | 21:53:00 | | | Riser plugged |
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| | | | | | | | |
| 5/5/2015 | 01:15:00 | 01:35:00 | | | | | |
| 5/6/2015 | | | | | | | |
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| 07:49:00 | 10:51:00 | R502 overloaded and tripped off (unplanned) |
| 12:08:00 | 12:35:00 | Vibration (unplanned) |
| 13:04:00 | 15:00:00 | Vibration (unplanned) |
| 15:13:00 | | |
| | 10:03:00 | Vibration (unplanned) |
| 10:19:00 | 11:12:00 | Posimetric feeder flushed (unplanned) |
| 11:53:00 | 11:54:00 | |
| 12:06:00 | 13:23:00 | Vibration (unplanned) |
| 16:22:00 | 18:11:00 | Vibration (unplanned) |
| 19:02:00 | | |
| | 02:51:00 | R502 overloaded (unplanned) |
| 03:23:00 | 06:57:00 | Vibration (unplanned) |
| 07:11:00 | 10:27:00 | Vibration (unplanned) |
| 10:40:00 | 12:37:00 | Vibration (unplanned) |
| 12:48:00 | 12:50:00 | Vibration (unplanned) |
| 13:52:00 | 16:22:00 | Working on R502 (planned) |
| 16:34:00 | 20:50:00 | R502 overloaded (unplanned) |
| 21:27:00 | 23:41:00 | Vibration (unplanned) |
| 00:31:00 | 02:07:00 | Vibration (unplanned) |
| 03:04:00 | 03:22:00 | R502 reject conveyor overloaded (unplanned) |
| 03:45:00 | 04:01:00 | Vibration (unplanned) |
| 04:11:00 | 04:19:00 | Down for maintenance (planned) |
| 15:04:00 | 15:56:00 | Vibration (unplanned) |
| 16:06:00 | 16:09:00 | Vibration (unplanned) |
| 16:43:00 | 16:49:00 | Vibration (unplanned) |
| 19:13:00 | 19:25:00 | Vibration (unplanned) |
| 19:54:00 | 23:10:00 | Vibration (unplanned) |
| 23:35:00 | | |
| | 12:42:00 | Mill unstable due to loss of kiln feed flow on preheater tower (unplanned) |
| 13:04:00 | | |
| | 03:11:00 | Vibration (unplanned) |
| 03:21:00 | 09:55:00 | Vibration (unplanned) |
| 10:08:00 | 15:29:00 | Vibration (unplanned) |
| 15:48:00 | 21:10:00 | Vibration (unplanned) |
| 21:23:00 | | |
| | 04:43:00 | Vibration (unplanned) |
| 04:55:00 | 05:25:00 | Vibration (unplanned) |
| 05:56:00 | 21:04:00 | R502 stopped (drive belts) |
| 21:38:00 | 21:49:00 | Riser plugged in Tower (Feed off 21:53) |
| 22:38:00 | | |
| | 13:43:00 | Vibration (unplanned) |
| 13:57:00 | | |

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|---|---|---|---|---|---|---|---|---|---|---|
| 5/7/2015 | | | | | | | | | 03:08:00 | Vibration (unplanned) |
| | | | | | | | | 03:20:00 | 04:20:00 | Vibration (unplanned) |
| | | | | | | | | 14:20:00 | 14:35:00 | Vibration (unplanned) |
| | | | | | | | | 15:12:00 | 17:18:00 | R504 tripped (unplanned) |
| 5/8/2015 | | | | | | | | 00:00:00 | 08:16:00 | Surge bin overfilled. (unplanned) |
| | | | | | | | | 08:35:00 | 19:18:00 | Rejects chute plugged (unplanned) |
| | | | | | | | | 19:32:00 | 22:20:00 | Vibration (unplanned) |
| | | | | | | | | 22:39:00 | | |
| 5/9/2015 | | | | | | | | | 03:28:00 | Vibration (unplanned) |
| | | | | | | | | 03:50:00 | 07:04:00 | Vibration (unplanned) |
| | | | | | | | | 07:21:00 | 09:46:00 | Vibration (unplanned) |
| | | | | | | | | 14:52:00 | 17:06:00 | Vibration (unplanned) |
| | | | | | | | | 17:27:00 | 19:08:00 | Vibration (unplanned) |
| | | | | | | | | 19:26:00 | 22:04:00 | Vibration (unplanned) |
| | | | | | | | | 22:25:00 | | |
| 5/10/2015 | | | | | | | | | 10:20:00 | Surge bin flushed (unplanned) |
| | | | | | | | | 10:41:00 | 10:43:00 | Vibration (unplanned) |
| | | | | | | | | 11:00:00 | 13:31:00 | Surge bin flushed (unplanned) |
| | | | | | | | | 14:00:00 | 14:10:00 | Vibration (unplanned) |
| | | | | | | | | 14:27:00 | | |
| 5/11/2015 | | | | | | | | | 09:07:00 | Vibration (unplanned) |
| | | | | | | | | 09:24:00 | 10:06:00 | Surge bin flushed (unplanned) |
| | | | | | | | | 10:39:00 | 10:52:00 | Vibration (unplanned) |
| | | | | | | | | 11:16:00 | | |
| 5/12/2015 | | | | | | | | | 15:12:00 | Vibration (unplanned) |
| | | | | | | | | 15:26:00 | 15:28:00 | vibration (unplanned) |
| | | | | | | | | 15:58:00 | 16:12:00 | vibration (unplanned) |
| | | | | | | | | 22:30:00 | 22:51:00 | Vibration (unplanned) |
| | | | | | | | | 23:18:00 | | |
| 5/13/2015 | | | | | | | | | | |
| 5/14/2015 | | | | | | | | | 04:33:00 | Maintenance day (planned) |
| | | | | | | | | 13:35:00 | 23:15:00 | Vibration (unplanned) |
| | | | | | | | | 23:35:00 | | |
| 5/15/2015 | | | | | | | | | 03:13:00 | Vibration (unplanned) |
| | | | | | | | | 03:34:00 | 05:25:00 | Vibration (unplanned) |
| | | | | | | | | 05:40:00 | 05:41:00 | Vibration (unplanned) |
| | | | | | | | | 06:12:00 | 09:15:00 | Stack testing (planned) |
| | | | | | | | | 11:36:00 | 23:20:00 | Vibration (unplanned) |
| | | | | | | | | 23:46:00 | | |
| 5/16/2015 | | | | | | | | | 00:03:00 | Vibration (unplanned) |
| | | | | | | | | 00:26:00 | 00:33:00 | Vibration (unplanned) |
| | | | | | | | | 21:07:00 | 22:41:00 | Vibration (unplanned) |
| | | | | | | | | 22:56:00 | 22:58:00 | |
| | | | | | | | | 23:20:00 | 23:22:00 | Vibration (unplanned) |
| 5/17/2015 | | | | | | | | 00:03:00 | 00:18:00 | Pull cord on the R455 was hit (unplanned) |

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| | | | | | | | | 00:32:00 | 04:03:00 | Vibration (unplanned) |
| | | | | | | | | 20:10:00 | 20:27:00 | Surge bin flushed (unplanned) |
| | | | | | | | | 20:37:00 | 20:49:00 | Surge bin flushed (unplanned) |
| 5/18/2015 | | | | | | | | | 01:01:00 | Vibration (unplanned) |
| | | | | | | | | 17:04:00 | 21:38:00 | Vibration (unplanned) |
| | | | | | | | | 21:54:00 | 23:49:00 | Silos #1 & #5 Empty (unplanned) |
| 5/19/2015 | | | | | | | | 05:04:00 | 08:28:00 | Vibration (unplanned) |
| | | | | | | | | 09:17:00 | 13:25:00 | Vibration (unplanned) |
| | | | | | | | | 13:47:00 | 18:40:00 | Vibration (unplanned) |
| 5/20/2015 | | | 15:00:00 | 16:00:00 | | | Quarry crusher malfunction | | 00:18:00 | Vibration (unplanned) |
| | | | | | | | | 00:35:00 | 04:26:00 | Vibration (unplanned) |
| | | | | | | | | 04:44:00 | 05:43:00 | Vibration (unplanned) |
| | | | | | | | | 06:05:00 | 09:56:00 | Vibration (unplanned) |
| | | | | | | | | 10:12:00 | 10:32:00 | Vibration (unplanned) |
| | | | | | | | | 10:44:00 | 10:47:00 | Vibration (unplanned) |
| | | | | | | | | 11:18:00 | 13:55:00 | Feed off 13:59 |
| 6/1/2015 | 05:45:00 | 18:10:00 | | | | | | | | |
| 6/2/2015 | | | | | | | | 01:08:00 | 01:09:00 | |
| | | | | | | | | 01:32:00 | 01:56:00 | Vibration (unplanned) |
| | | | | | | | | 01:57:00 | 03:25:00 | Hydraulic lube pump tripped off (unplanned) |
| | | | | | | | | 03:34:00 | 08:33:00 | R315 belt tripped off. Tracking (unplanned) |
| | | | | | | | | 09:11:00 | 09:15:00 | R315 belt tripped off. Tracking (unplanned) |
| | | | | | | | | 10:52:00 | 10:55:00 | Posimetric feeder probe needed adjustment (unplanned) |
| | | | | | | | | 13:42:00 | 13:45:00 | Tire position sensor adjustment (unplanned) |
| | | | | | | | | 14:39:00 | | |
| 6/3/2015 | | | | | | | | | 09:13:00 | Vibration (unplanned) |
| | | | | | | | | 09:31:00 | | |
| 6/4/2015 | | | | | | | | | 08:00:00 | Blend silo full (planned) |
| | | | | | | | | 10:06:00 | 13:17:00 | Blend silo full (planned) |
| | | | | | | | | 18:05:00 | 23:11:00 | Blend silo full (planned) |
| 6/5/2015 | | | | | | | | 02:08:00 | 07:29:00 | Blend silo full (planned) |
| | | | | | | | | 12:24:00 | 20:21:00 | Blend silo full (planned) |
| | | | | | | | | 23:16:00 | | |
| 6/6/2015 | | | | | | | | | 07:43:00 | Blend silo full (planned) |
| | | | | | | | | 09:54:00 | 17:37:00 | Blend silo full (planned) |
| | | | | | | | | 20:19:00 | | |
| 6/7/2015 | | | | | | | | | 04:17:00 | Blend silo full (planned) |
| | | | | | | | | 07:00:00 | 15:50:00 | Blend silo full (planned) |
| | | | | | | | | 17:23:00 | | |
| 6/8/2015 | | | | | 13:36:00 | 15:15:00 | K817 Kiln feed elevator malfunction | | 00:07:00 | Blend silo full (planned) |
| | | | | | | | | 01:41:00 | 08:07:00 | Blend silo full (planned) |
| | | | | | | | | 09:56:00 | 12:27:00 | Feed off 12:37 |
| | | | | | | | | 15:04:00 | | |
| 6/9/2015 | | | | | 09:40:00 | 11:00:00 | Stage 4 plugged | | 01:00:00 | Blend silo full (planned) |

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| 6/10/2015 | | | | | | | |
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| 6/11/2015 | | | | | 03:12:00 | 10:43:00 | Clinker cooler water sprays plugged |
| | 10:43:00 | 11:45:00 | | | | | |
| 6/12/2015 | | | | | | | |
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| 6/13/2015 | | | | | 03:33:00 | 07:55:00 | Maintenance on R509 RM fan |
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| 6/14/2015 | | | | | | | |
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| 6/15/2015 | | | | | | | |
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| 6/16/2015 | | | | | | | |
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| 6/17/2015 | | | | | 04:16:00 | 12:21:00 | Maintenance clinker breaker lube system |
| | 12:21:00 | 12:55:00 | | | | | |
| | | | | | | | |
| 6/18/2015 | | | | | 14:50:00 | 17:30:00 | Coal Mill DC bad bearing and shaft |
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| 6/19/2015 | | | | 23:47:00 | | | Clinker breaker lube hose melted |
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| 02:58:00 | 08:34:00 | Feed off 08:41 |
| 11:23:00 | 16:16:00 | Blend silo full (planned) |
| 18:00:00 | | |
| | 01:58:00 | Blend silo full (planned) |
| 04:05:00 | 14:30:00 | Low air on seal air (unplanned) |
| 15:29:00 | | |
| | 01:36:00 | Feed off 03:13 |
| 16:58:00 | | |
| | 14:13:00 | Blend silo full (planned) |
| 15:26:00 | 19:53:00 | Blend silo full (planned) |
| 22:40:00 | | |
| | 01:00:00 | R509 Venturi cracked/broken (unplanned)<br>Feed off 02:33 |
| 11:56:00 | 21:39:00 | Vibration (unplanned) |
| 21:52:00 | 21:59:00 | Vibration (unplanned) |
| 22:22:00 | | |
| | 00:11:00 | R502 overloaded (unplanned) |
| 00:53:00 | 01:49:00 | Posimetric feeder flushed (unplanned) |
| 03:27:00 | 05:27:00 | Vibration (unplanned) |
| 05:47:00 | 05:49:00 | Vibration (unplanned) |
| 06:44:00 | | |
| | 00:31:00 | Blend silo full (planned) |
| 02:06:00 | 06:59:00 | Lost motion on R513 |
| 09:02:00 | 10:34:00 | vibration (unplanned) |
| 10:45:00 | 10:46:00 | Vibration (unplanned) |
| 11:39:00 | 22:09:00 | Blend silo full (planned) |
| 00:12:00 | 05:58:00 | Replaced skirting on R502 belt (planned) |
| 14:46:00 | 14:55:00 | R513 tripped on alignment (unplanned) |
| 15:01:00 | 15:09:00 | Posimetric feeder flushed (unplanned) |
| 15:54:00 | | |
| | 04:06:00 | Kiln down  Feed off 04:16 |
| 15:05:00 | 20:07:00 | Vibration (unplanned) |
| 20:28:00 | | |
| | 03:30:00 | Vibration (unplanned) |
| 04:02:00 | 11:28:00 | Shutdown to reload posimetric feeder (planned) |
| 12:34:00 | 13:06:00 | Feed off 13:50 |
| 18:33:00 | 18:34:00 | Vibration (unplanned) |
| 19:12:00 | 21:46:00 | Vibration (unplanned) |
| 22:23:00 | | |
| | 09:42:00 | Maintenance working on R506B DC (planned) |
| 10:28:00 | 11:43:00 | Vibration (unplanned)  Kiln slowed down |
| 13:45:00 | 16:49:00 | Vibration (unplanned) |
| 17:00:00 | 17:03:00 | Vibration (unplanned) |

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| 6/20/2015 | | 03:00:00 | | | | | |
| 6/21/2015 | | | | | | | |
| 6/22/2015 | | | | | | | |
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| 6/23/2015 | | | | | | | |
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| 6/24/2015 | | | | | 13:08:00 | 16:20:00 | Coal Mill stopped to test interlock - would not restart |
| | 16:20:00 | 16:34:00 | | | | | |
| 6/25/2015 | | | | | | | |
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| 6/26/2015 | | | | | | | |
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| 6/28/2015 | | | | | | | |
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| 17:55:00 | 23:38:00 | Kiln down Feed off 23:47 |
| 03:57:00 | 22:26:00 | Blend silo full (planned) |
| 03:05:00 | 21:29:00 | Blend silo full (planned) |
| 00:26:00 | 11:05:00 | Blend silo full (planned) |
| 12:44:00 | 21:03:00 | Blend silo full (planned) |
| 22:02:00 | 22:45:00 | Vibration (unplanned) |
| 23:14:00 | | |
| | 00:12:00 | Vibration (unplanned) |
| 00:26:00 | 02:47:00 | R504 off the bull wheel (unplanned) |
| 16:16:00 | 22:45:00 | R504 chute plugged (unplanned) |
| 22:53:00 | | |
| | 13:03:00 | Kiln down Feed off 13:05 |
| 17:25:00 | | |
| | 04:33:00 | Vibration (unplanned) |
| 04:49:00 | 21:56:00 | Blend silo full (planned) |
| 00:41:00 | 10:01:00 | Blend silo full (planned) |
| 11:04:00 | 13:10:00 | Vibration (unplanned) |
| 13:33:00 | 13:45:00 | Vibration (unplanned) |
| 13:55:00 | 13:58:00 | Vibration (unplanned) |
| 14:41:00 | 19:14:00 | Vibration (unplanned) |
| 22:02:00 | | |
| | 00:48:00 | Replacing skirting on R455 belt (planned) |
| 01:09:00 | 06:12:00 | Vibration (unplanned) |
| 07:37:00 | 08:16:00 | Vibration (unplanned) |
| 08:42:00 | 09:58:00 | Vibration (unplanned) |
| 10:36:00 | 12:12:00 | Vibration (unplanned) |
| 12:21:00 | 13:01:00 | Vibration (unplanned) |
| 13:14:00 | 14:05:00 | Vibration (unplanned) |
| 14:39:00 | 15:17:00 | Vibration (unplanned) |
| 15:26:00 | 15:52:00 | Vibration (unplanned) |
| 15:57:00 | 17:04:00 | Vibration (unplanned) |
| 19:26:00 | 22:27:00 | Patching holes on mill scraper body (planned) |
| 23:51:00 | | |
| | 01:42:00 | R502 tripped down/tracked off (unplanned) |
| 02:39:00 | 05:09:00 | Fix R455 belt tracking (planned) |
| 05:42:00 | 10:06:00 | Vibration (unplanned) |
| 10:33:00 | 13:41:00 | Vibration (unplanned) |
| 14:06:00 | 15:25:00 | Vibration (unplanned) |
| 15:47:00 | 17:07:00 | Vibration (unplanned) |
| 17:20:00 | 18:44:00 | Vibration (unplanned) |
| 20:13:00 | 22:09:00 | Classifier tripped (unplanned) |
| 22:25:00 | 22:39:00 | Vibration (unplanned) |
| 22:59:00 | | |

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| 6/29/2015 | | | | | | | | | 03:25:00 | Vibration (unplanned) |
| | | | | | | | | 03:59:00 | 15:41:00 | Vibration (unplanned) |
| | | | | | | | | 17:12:00 | | |
| 6/30/2015 | | | | | | | | | 01:02:00 | Blend silo full (planned) |
| | | | | | | | | 03:45:00 | 06:40:00 | Blend silo full (planned) |
| | | | | | | | | 07:55:00 | 17:10:00 | Blend silo full (planned) |
| | | | | | | | | 19:50:00 | | |
| 7/1/2015 | | | | | | | | | | |
| | | | | | | | | 02:48:00 | 09:29:00 | Maintenance day (planned) |
| | | | | | | | | 12:10:00 | 14:43:00 | Piping for seal air fan failed (unplanned) |
| | | | | | | | | 17:21:00 | | |
| 7/2/2015 | | | | | | | | | 02:47:00 | |
| | | | | | | | | 03:03:00 | 11:58:00 | Vibration (unplanned) |
| | | | | | | | | 12:53:00 | 13:17:00 | Vibration (unplanned) |
| | | | | | | | | 13:53:00 | 18:27:00 | Blend silo full (planned) |
| | | | | | | | | 19:39:00 | | |
| 7/3/2015 | | | | | | | | | 04:15:00 | Blend silo full (planned) |
| | | | | | | | | 06:03:00 | 11:11:00 | Vibration (unplanned) |
| | | | | | | | | 11:32:00 | 13:13:00 | Vibration (unplanned) |
| | | | | | | | | 13:51:00 | 21:04:00 | Blend silo full (planned) |
| | | | | | | | | 23:02:00 | | |
| 7/4/2015 | | | | | | | | | 06:03:00 | Vibration (unplanned) |
| | | | | | | | | 06:31:00 | 06:34:00 | R513 elevator plugged (unplanned) |
| | | | | | | | | 06:43:00 | 10:13:00 | R502 reject chute plugged (unplanned) |
| | | | | | | | | 10:35:00 | 17:11:00 | Blend silo full (planned) |
| | | | | | | | | 19:15:00 | | |
| 7/5/2015 | | | | | | | | | 00:37:00 | Blend silo full (planned) |
| | | | | | | | | 02:36:00 | 10:59:00 | Blend silo full (planned) |
| | | | | | | | | 13:35:00 | 22:01:00 | Blend silo full (planned) |
| 7/6/2015 | | | | | | | | 00:03:00 | 16:00:00 | Vibration (unplanned) |
| | | | | | | | | 18:03:00 | 20:20:00 | Vibration (unplanned) |
| | | | | | | | | 20:55:00 | | |
| 7/7/2015 | | | | | | | | | 03:25:00 | Vibration (unplanned) |
| | | | | | | | | 04:21:00 | 10:27:00 | Blend silo full (planned) |
| | | | | | | | | 12:57:00 | 22:01:00 | Blend silo full (planned) |
| 7/8/2015 | | | | | | | | 00:22:00 | 06:18:00 | Blend silo full (planned) |
| | | | | | | | | 08:21:00 | 16:30:00 | Blend silo full (planned) |
| | | | | | | | | 18:39:00 | | |
| 7/9/2015 | | | | | | | | | 00:48:00 | Blend silo full (planned) |
| | | | | | | | | 02:16:00 | 07:12:00 | Blend silo full (planned) |
| | | | | | | | | 10:03:00 | 10:09:00 | Blend silo full (planned) |
| | | | | | | | | 12:05:00 | | |
| 7/10/2015 | | | | | | | | | 07:03:00 | Blend silo full (planned) |
| | | | | | | | | 08:49:00 | 15:21:00 | Blend silo full (planned) |
| | | | | | | | | 17:02:00 | | |

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| 7/11/2015 | | | 05:20:00 | 14:18:00 | | | Planned shutdown | | 01:13:00 | Blend silo full (planned) |
| | | | | | | | | 02:47:00 | 04:10:00 | Kiln down |
| 8/4/2015 | | | | | | | | | | |
| 8/5/2015 | 19:58:00 | 20:58:00 | | | | | | | | |
| 8/6/2015 | | | | | 01:40:00 | 03:37:00 | Kiln feel elevator tripped off | 08:57:00 | | |
| | 03:37:00 | 04:37:00 | | | | | | | | |
| 8/7/2015 | | | | | | | | | 05:13:00 | Blend silo full (planned) |
| | | | | | | | | 07:22:00 | 09:55:00 | Blend silo full (planned) |
| | | | | | | | | 11:54:00 | 20:43:00 | Blend silo full (planned) |
| | | | | | | | | 21:54:00 | 22:22:00 | Vibration (unplanned) |
| | | | | | | | | 22:44:00 | | |
| 8/8/2015 | | | | | | | | | 04:30:00 | Vibration (unplanned) |
| | | | | | | | | 06:41:00 | 10:11:00 | Blend silo full (planned) |
| | | | | | | | | 13:59:00 | 18:03:00 | Rejects plugged (unplanned) |
| | | | | | | | | 20:30:00 | 23:19:00 | Rejects plugged (unplanned) |
| | | | | | | | | 23:36:00 | | |
| 8/9/2015 | | | | | 09:13:00 | 17:28:00 | Cooler vent fan vibrating | | 08:35:00 | Blend silo full ( planned) |
| | 17:28:00 | 18:06:00 | | | | | | 18:34:00 | | |
| 8/10/2015 | | | | | | | | | 08:10:00 | Blend silo full (planned) |
| | | | | | | | | 11:07:00 | 19:27:00 | Blend silo full (planned) |
| | | | | | | | | 23:36:00 | | |
| 8/11/2015 | | | | | 02:02:00 | 04:50:00 | Kiln down, Pfister feeder tripping | | 02:17:00 | kiln down Feed off 02:17 |
| | 04:50:00 | 05:15:00 | | | | | | 09:09:00 | | |
| | | | | | | | | | 21:54:00 | Blend silo full (planned) |
| 8/12/2015 | | | | | | | | 01:15:00 | 01:31:00 | R510 airslide plugged (unplanned) |
| | | | | | | | | 02:54:00 | 11:40:00 | R510 airslide plugged (unplanned) |
| | | | | | | | | 12:16:00 | 12:46:00 | Vibration (unplanned) |
| | | | | | | | | 13:02:00 | 13:10:00 | Vibration (unplanned) |
| | | | | | | | | 13:24:00 | 18:03:00 | Vibration (unplanned) |
| | | | | | | | | 18:16:00 | 22:39:00 | Blend silo full (planned) |
| 8/13/2015 | | | | | | | | 01:27:00 | 04:50:00 | Down for maintenance e(unplanned) |
| | | | | | | | | 18:52:00 | 21:35:00 | Rejects plugged (unplanned) |
| | | | | | | | | 21:47:00 | | |
| 8/14/2015 | | | | | | | | | 03:05:00 | Maintenance (planned) |
| | | | | | | | | 13:46:00 | | |
| 8/15/2015 | | | | | | | | | 12:18:00 | R502 pull cord (unplanned) |
| | | | | | | | | 12:33:00 | 20:52:00 | Vibration (unplanned) |
| | | | | | | | | 21:21:00 | 21:23:00 | Vibration (unplanned) |
| | | | | | | | | 22:20:00 | 22:22:00 | R502 tripped off (unplanned) |
| | | | | | | | | 22:40:00 | | |
| 8/17/2015 | | | 11:18:00 | 11:30:00 | | | CAP power demand | | 08:36:00 | Cap Tag day (planned) Feed off 11:18 |
| | 17:35:00 | 21:00:00 | | | | | | 21:00:00 | | |
| 8/18/2015 | | | 12:10:00 | 12:15:00 | | | CAP power demand | | 05:17:00 | Stack testing (planned) |
| | 16:30:00 | 20:00:00 | | | | | | 19:53:00 | 21:29:00 | Kiln down Feed off 21:35 |
| | | | | | 22:25:00 | | Kiln drive tripped, would not restart | | | |

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| 8/19/2015 | | | | | | 06:10:00 | |
| | 09:00:00 | 13:00:00 | | | | | |
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| 8/20/2015 | | | | | | | |
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| 8/21/2015 | | | | | | | |
| 8/22/2015 | | | | | | | |
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| 8/23/2015 | | | | | | | |
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| 8/24/2015 | | | | | | | |
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| 8/25/2015 | | | | | | | |
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| 8/26/2015 | | | | | | | |
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| 8/27/2015 | | | | | | | |
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| 8/28/2015 | | | | | | | |
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| 8/29/2015 | | | | | | | |
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| 8/30/2015 | | | | | | | |
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| 8/31/2015 | | | | | | | |
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| 9/1/2015 | | | | | | | |
| | | | | | | | |
| 9/2/2015 | | | | | | 11:21:00 | 13:35:00 K811 Kiln ID fan tripped |
| | 13:35:00 | 14:33:00 | | | | | |
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| 9/3/2015 | | | | | | | |
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| 16:19:00 | 16:28:00 | R513 tripped off (unplanned) |
| 16:39:00 | 16:58:00 | R507A cyclone tripped (unplanned) |
| 17:38:00 | | |
| | 06:06:00 | Vibration (unplanned) |
| 06:18:00 | 16:12:00 | Stack testing (planned) |
| 19:59:00 | | |
| | 23:59:00 | Blend silo full (planned) |
| 02:31:00 | 03:35:00 | Vibration (unplanned) |
| 03:37:00 | 13:07:00 | Blend silo full (planned) |
| 16:21:00 | 21:59:00 | Blend silo full (planned) |
| 00:43:00 | 15:03:00 | Blend silo full (planned) |
| 17:04:00 | | |
| | 02:37:00 | Blend silo full (planned) |
| 05:13:00 | 05:31:00 | R510 airslide blower tripped off (unplanned) |
| 08:24:00 | 23:24:00 | Blend silo full (planned) |
| 04:22:00 | 20:41:00 | Blend silo full (planned) |
| 23:19:00 | | |
| | 12:07:00 | Blend silo full (planned) |
| 14:56:00 | 19:41:00 | Blend silo full (planned) |
| 22:10:00 | | |
| | 10:31:00 | Blend silo full (planned) |
| 15:38:00 | 15:57:00 | R507A cyclone tripped (unplanned) |
| 16:31:00 | | |
| | 07:59:00 | Blend silo full (planned) |
| 10:44:00 | 11:46:00 | Patching hole in Silo #2 (unplanned) |
| 13:45:00 | | |
| | 01:02:00 | Blend silo full (planned) |
| 03:24:00 | 11:02:00 | Blend silo full (planned) |
| 13:30:00 | 19:32:00 | Blend silo full (planned) |
| 22:11:00 | | |
| | 08:18:00 | Blend silo full (planned) |
| 10:31:00 | 13:50:00 | Blend silo full (planned) |
| 16:00:00 | 22:08:00 | Blend silo full (planned) |
| 01:27:00 | 09:40:00 | Blend silo full (planned) |
| 13:57:00 | | |
| | 04:00:00 | Blend silo full (planned) |
| 09:19:00 | 23:00:00 | Blend silo full (planned) |
| 02:30:00 | 08:58:00 | Blend silo full (planned) |
| 11:11:00 | 11:15:00 | Vibration (unplanned) |
| 11:40:00 | 11:51:00 | Kiln down  Feed off 11:51 |
| 15:05:00 | | |
| | 04:01:00 | Blend silo full (planned) |
| 08:17:00 | 14:20:00 | Blend silo full (planned) |
| 16:12:00 | 20:52:00 | Blend silo full (planned) |

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| 9/4/2015 | | | | | | | | 01:20:00 | 12:25:00 | Blend silo full (planned) |
| | | | | | | | | 16:16:00 | | |
| 9/5/2015 | | | | | | | | | 01:28:00 | Vibration (unplanned) |
| | | | | | | | | 01:41:00 | 01:46:00 | Vibration (unplanned) |
| | | | | | | | | 02:07:00 | 11:57:00 | Blend silo full (planned) |
| | | | | | | | | 14:51:00 | 21:16:00 | R502 pull cord (unplanned) |
| 9/6/2015 | | | | | | | | 00:13:00 | 07:09:00 | Working on skirting for the R455 belt (unplanned) |
| | | | | | | | | 10:31:00 | 22:27:00 | Blend silo full (planned) |
| 9/7/2015 | | | | | | | | 01:32:00 | 03:04:00 | Adjusting the R455 belt (unplanned) |
| | | | | | | | | 03:50:00 | 14:31:00 | Blend silo full (planned) |
| | | | | | | | | 18:29:00 | | |
| 9/8/2015 | | | | | 07:37:00 | 11:00:00 | Coal Mill down | | 04:29:00 | Cap Tag day (planned) Feed off 12:14 |
| | 11:00:00 | 12:10:00 | | | | | | | | |
| | | | 12:10:00 | 13:10:00 | | | CAP power demand | | | |
| | | | | | | | | | | |
| 9/9/2015 | 02:00:00 | 03:00:00 | | | | | | 05:44:00 | 05:51:00 | South alignment trip on R513 elevator (unplanned) |
| | | | 13:44:00 | 13:50:00 | | | CAP power demand | 06:21:00 | 09:16:00 | |
| | | | | | | | | 09:44:00 | 13:38:00 | Cap Tag day (planned) Feed off 13:45 |
| | 21:56:00 | 22:30:00 | | | | | | 23:29:00 | 23:49:00 | R504 overloaded (unplanned) |
| 9/10/2015 | | | | | 08:45:00 | 12:00:00 | Change drive belts on K569 cooler fan | 01:21:00 | 07:28:00 | kiln down Feed off 07:45 |
| | 12:00:00 | 12:14:00 | | | | | | 12:18:00 | | |
| 9/11/2015 | | | | | | | | | 02:35:00 | Blend silo full (planned) |
| | | | | | | | | 04:55:00 | 05:10:00 | Vibration (unplanned) |
| | | | | | | | | 05:24:00 | 12:51:00 | Blend silo full (planned) |
| | | | | | | | | 14:45:00 | 19:01:00 | Blend silo full (planned) |
| | | | | | | | | 22:14:00 | | |
| 9/12/2015 | | | | | | | | | 07:55:00 | Blend silo full (planned) |
| | | | | | | | | 10:15:00 | 18:39:00 | Blend silo full (planned) |
| | | | | | | | | 23:10:00 | | |
| 9/13/2015 | | | | | | | | | 09:43:00 | Blend silo full (planned) |
| | | | | | | | | 14:10:00 | 16:26:00 | Vibration (unplanned) |
| | | | | | | | | 17:09:00 | | |
| 9/14/2015 | | | | | | | | | 03:06:00 | Vibration (unplanned) |
| | | | | | | | | 04:03:00 | 05:08:00 | Maintenance (planned) |
| | | | | | | | | 12:36:00 | | |
| 9/15/2015 | | | | | | | | | 03:15:00 | Pfister feeder hung up (unplanned) |
| | | | | | | | | 04:17:00 | 11:19:00 | R504 tripped (unplanned) |
| | | | | | | | | 11:46:00 | 18:17:00 | Blend silo full (planned) |
| | | | | | | | | 22:16:00 | | |
| 9/16/2015 | | | | | | | | | 07:27:00 | Blend silo full (planned) |
| | | | | | | | | 12:04:00 | | |
| 9/17/2015 | | | | | 06:55:00 | 06:09:00 | Clinker breaker/draglines plugged | | 05:58:00 | Blend silo full (planned) Feed off 06:09 |

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| | | | 14:03:00 | 14:10:00 | | | Kiln girth gear malfunction, started shutdown early | | | |
| 10/7/2015 | 21:38:00 | 23:00:00 | | | | | | | | |
| 10/8/2015 | | | | | 05:55:00 | 13:30:00 | Plug coming out of cooler | 18:28:00 | 18:29:00 | Vibration (unplanned) |
| | 13:32:00 | 15:06:00 | | | | | | 18:40:00 | 18:50:00 | Plugged R513 elevator. (unplanned) |
| | | | | | | | | 19:38:00 | 19:40:00 | Plugged R513 elevator. (unplanned) |
| | | | | | | | | 20:11:00 | 20:28:00 | R507A tripped (unplanned) |
| | | | | | | | | 21:14:00 | 21:49:00 | Plugged stage 3 in Tower (unplanned) |
| | | | | | | | | 22:06:00 | 22:08:00 | R502 kicked off (unplanned) |
| | | | | | | | | 23:10:00 | 23:18:00 | R510 airslide plugged (unplanned) |
| | | | | | | | | 23:30:00 | | |
| 10/9/2015 | | | | | | | | | 13:44:00 | Posimetric feeder fault (unplanned) |
| | | | | | | | | 19:39:00 | 19:49:00 | R513 elevatror kicked off (unplanned) |
| | | | | | | | | 20:28:00 | | |
| 10/10/2015 | | | | | | | | | 14:56:00 | |
| | | | | | | | | 17:33:00 | | |
| 10/11/2015 | | | | | | | | | 00:00:00 | Blend silo full (planned) |
| | | | | | | | | 01:15:00 | 07:21:00 | Blend silo full (planned) |
| | | | | | | | | 10:01:00 | | |
| 10/12/2015 | | | | | | | | | 00:18:00 | Blend silo full (planned) |
| | | | | | | | | 02:28:00 | 07:45:00 | Blend silo full (planned) |
| | | | | | | | | 10:22:00 | 22:22:00 | Blend silo full (planned) |
| 10/13/2015 | | | | | | | | 00:34:00 | 06:37:00 | Blend silo full (planned) |
| | | | | | | | | 14:08:00 | 14:15:00 | R513 down (unplanned) |
| | | | | | | | | 14:25:00 | | |
| 10/14/2015 | | | | | | | | | 05:47:00 | Shut down for maintenance (planned) |
| | | | | | | | | 06:37:00 | 16:02:00 | Blend silo full (planned) |
| | | | | | | | | 18:15:00 | | |
| 10/15/2015 | | | | | | | | | 05:04:00 | Blend silo full (planned) |
| | | | | | | | | 13:25:00 | | |
| 10/16/2015 | | | | | | | | | 06:25:00 | Maintenance of R463 magnet belt (planned) |
| | | | | | | | | 09:01:00 | 20:07:00 | Blend silo full (planned) |
| | | | | | | | | 23:23:00 | | |
| 10/17/2015 | | | | | | | | | 00:07:00 | Kiln feed elevator kicked off (unplanned) |
| | | | | | | | | 00:43:00 | 05:13:00 | Cyclone rotary feed down (unplanned0 |
| | | | | | | | | 05:53:00 | 18:02:00 | Blend silo full (planned) |
| | | | | | | | | 22:05:00 | | |
| 10/18/2015 | | | | | | | | | 21:59:00 | Blend silo full (planned) |
| 10/19/2015 | | | | | | | | 02:02:00 | 22:08:00 | Blend silo full (planned) |
| | | | | | | | | 23:50:00 | | |
| 10/20/2015 | | | | | 06:49:00 | 15:42:00 | CIS vibration down for repair | | 06:49:00 | Kiln down for CIS fan (planned) |
| | 15:42:00 | 15:52:00 | | | | | | 17:54:00 | 18:02:00 | Lost power for Silo #5 weigh feeder (unplanned) |
| | | | | | | | | 22:10:00 | | |
| 10/21/2015 | | | | | | | | | 12:38:00 | Gamma lost communication (unplanned) |

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| 10/22/2015 | | | | | | | |
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| 10/23/2015 | | | | | | | |
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| 10/24/2015 | | | | | 22:49:00 | | Clinker break down |
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| 10/25/2015 | | | | | | 04:24:00 | |
| | 04:24:00 | 04:43:00 | | | | | |
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| 10/26/2015 | | | | | | | |
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| 10/27/2015 | | | | | 00:55:00 | 15:21:00 | Stage 3 plugged |
| | 15:21:00 | 16:20:00 | | | | | |
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| 10/28/2015 | | | | | | | |
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| 10/29/2015 | | | | | | | |
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| 10/30/2015 | | | | | | | |
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| 10/31/2015 | | | | | | | |
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| 11/1/2015 | | | | | | | |

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|---|---|---|
| 16:24:00 | | |
| | | |
| | 16:29:00 | Blend silo full (planned) |
| 21:32:00 | | |
| | 17:01:00 | Blend silo full (planned) |
| 21:28:00 | | |
| | 05:22:00 | Classifier tripped (unplanned) |
| 06:18:00 | 12:42:00 | Classifier tripped (unplanned) |
| 12:56:00 | 15:06:00 | Classifier tripped (unplanned) |
| 15:16:00 | 16:26:00 | Classifier tripped (unplanned) |
| 16:51:00 | 19:29:00 | Classifier tripped (unplanned) |
| 19:59:00 | 22:27:00 | Classifier tripped (unplanned) |
| 05:21:00 | 07:06:00 | Classifier tripped (unplanned) |
| 07:19:00 | 08:26:00 | Classifier tripped (unplanned) |
| 09:32:00 | 11:05:00 | Classifier tripped (unplanned) |
| 11:16:00 | 13:15:00 | Blend silo full (planned) |
| 14:50:00 | 21:28:00 | Blend silo full (planned) |
| 23:10:00 | | |
| | 03:13:00 | Classifier tripped (unplanned) |
| 03:53:00 | 06:17:00 | Classifier tripped (unplanned) |
| 06:32:00 | 07:33:00 | Maintenance (planned) |
| 11:13:00 | 12:19:00 | Classifier tripped (unplanned) |
| 13:18:00 | 20:38:00 | Classifier tripped (unplanned) |
| 21:42:00 | 23:41:00 | Kiln down (planned) |
| 19:26:00 | 22:14:00 | Classifier tripped (unplanned) |
| 22:24:00 | 23:36:00 | |
| 23:46:00 | | |
| | 01:04:00 | Classifier tripped (unplanned) |
| 01:25:00 | 04:03:00 | Classifier tripped (unplanned) |
| 04:15:00 | 05:15:00 | Classifier tripped (unplanned) |
| 07:20:00 | 11:41:00 | Classifier tripped (unplanned) |
| 11:52:00 | 12:26:00 | Classifier tripped (unplanned) |
| 12:52:00 | 13:14:00 | Vibration (unplanned) |
| 15:18:00 | 22:57:00 | |
| 16:53:00 | 18:04:00 | Classifier tripped (unplanned) |
| 19:06:00 | | |
| | 06:46:00 | R502 pull cord (unplanned) |
| 06:53:00 | | |
| | 01:28:00 | Blend silo full (planned) |
| 05:04:00 | 09:49:00 | Blend silo full (planned) |
| 13:20:00 | | |
| | 01:13:00 | R455 chute plugged (unplanned) |
| 05:04:00 | 06:17:00 | Vibration (unplanned) |
| 06:29:00 | 21:01:00 | Blend silo full (planned) |
| 01:49:00 | 03:30:00 | Vibration (unplanned) |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | 03:41:00 | 03:45:00 | Vibration (unplanned) |
| | | | | | | | | 03:53:00 | 05:02:00 | Vibration (unplanned) |
| | | | | | | | | 05:12:00 | 09:30:00 | Vibration (unplanned) |
| | | | | | | | | 10:11:00 | 13:43:00 | Vibration (unplanned) |
| | | | | | | | | 15:14:00 | 21:11:00 | Blend silo full (planned) |
| 11/2/2015 | | | | | | | | 02:54:00 | 03:03:00 | R513 south tail alignment (unplanned) |
| | | | | | | | | 03:38:00 | 18:47:00 | Blend silo full (planned) |
| | | | | | | | | 22:33:00 | | |
| 11/3/2015 | | | | | | | | | 03:50:00 | Blend silo full (planned) |
| | | | | | | | | 05:31:00 | 10:26:00 | Housekeeping (unplanned) |
| | | | | | | | | 19:35:00 | 19:42:00 | Tail alignment on R513 elevator (unplanned) |
| | | | | | | | | 19:47:00 | | |
| 11/4/2015 | | | | | | | | | 10:01:00 | Cleaning under R513 belt (planned) |
| | | | | | | | | 13:25:00 | 20:11:00 | QCX issues in lab (unplanned) |
| | | | | | | | | 20:38:00 | | |
| 11/5/2015 | | | | | | | | | 02:38:00 | Blend silo full (planned) |
| | | | | | | | | 04:29:00 | 08:07:00 | Maintenance working on the R315B (planned) |
| | | | | | | | | 08:30:00 | 09:40:00 | Maintenance working on the R315B (planned) |
| | | | | | | | | 11:00:00 | 11:06:00 | Pull cord on the R315 belt |
| | | | | | | | | 11:14:00 | | |
| 11/6/2015 | | | | | | | | | 03:09:00 | Blend silo full (planned) |
| | | | | | | | | 05:01:00 | 18:36:00 | Lost the R513 elevator |
| | | | | | | | | 22:18:00 | | |
| 11/7/2015 | | | | | | | | | 02:37:00 | Blend silo full (planned) |
| | | | | | | | | 04:18:00 | 10:48:00 | Blend silo full (planned) |
| | | | | | | | | 12:52:00 | | |
| 11/8/2015 | | | | | | | | | 00:03:00 | Blend silo full (planned) |
| | | | | | | | | 02:27:00 | 09:39:00 | Blend silo full (planned) |
| | | | | | | | | 11:51:00 | 23:06:00 | Blend silo full (planned) |
| 11/9/2015 | | | | | | | | 01:23:00 | 09:13:00 | Blend silo full (planned) |
| | | | | | | | | 11:29:00 | 22:01:00 | Blend silo full (planned) |
| 11/10/2015 | | | | | | | | 02:42:00 | 15:09:00 | Blend silo full (planned) |
| | | | | | | | | 17:39:00 | | |
| 11/11/2015 | | | | | | | | | 05:07:00 | Blend silo full (planned) |
| | | | | | | | | 07:34:00 | 13:50:00 | Blend silo full (planned) |
| | | | | | | | | 15:28:00 | | |
| 11/12/2015 | | | | | | | | | 02:39:00 | Blend silo full (planned) |
| | | | | | | | | 06:01:00 | 13:25:00 | Blend silo full (planned) |
| | | | | | | | | 16:07:00 | 23:59:00 | Blend silo full (planned) |
| 11/13/2015 | | | | | | | | 03:13:00 | 11:03:00 | Blend silo full (planned) |
| | | | | | | | | 13:06:00 | 22:40:00 | Blend silo full (planned) |
| 11/14/2015 | | | | | | | | 01:25:00 | 13:38:00 | Blend silo full (planned) |

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| 11/15/2015 | | | | | | | |
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| 11/16/2015 | | | | | | | |
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| 11/18/2015 | | | | | | | |
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| 11/19/2015 | | | 0:12 | 0:45 | | | Kiln down Hot spot 20' |
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| 11/20/2015 | | | | | | | |
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| 11/25/2015 | | | | | | | |
| 11/26/2015 | 02:21:00 | 04:21:00 | | | | | |
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| 11/27/2015 | | | | | 12:07:00 | 16:02:00 | |
| | 16:02:00 | 16:14:00 | | | | | |
| | | | | | | | |
| 11/28/2015 | | | 18:03:00 | 18:03:00 | | | Kiln down |
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| 12/1/2015 | 15:41:00 | 17:52:00 | | | | | |
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| 17:02:00 | 23:40:00 | Deal air fan low pressure (filter dirty) (unplanned) |
| 03:44:00 | 17:08:00 | Blend silo full (planned) |
| 21:37:00 | | |
| | 07:19:00 | Blend silo full (planned) |
| 11:17:00 | 14:53:00 | Lost water spray (unplanned) |
| 15:53:00 | 22:10:00 | Blend silo full (planned) |
| 00:10:00 | 09:40:00 | Blend silo full (planned) |
| 14:22:00 | 21:41:00 | Blend silo full (planned) |
| 23:42:00 | | |
| | 10:42:00 | Blend silo full (planned) |
| 15:44:00 | 23:07:00 | kiln down (planned) |
| | | Feed off 00:12 |
| | | |
| 20:07:00 | 21:29:00 | |
| 21:31:00 | 21:33:00 | Feed off 22:06 |
| | | |
| 07:20:00 | 07:26:00 | R513 alignment switch (unplanned) |
| 07:42:00 | 08:10:00 | R513 alignment switch (unplanned) |
| | 06:48:00 | Blend silo full (planned) |
| 09:24:00 | 11:49:00 | Kiln down (planned) Feed off 12:09 |
| 20:44:00 | 20:51:00 | R513 alignment switch (unplanned) |
| | 10:08:00 | Blend silo full (planned) |
| 15:03:00 | 15:10:00 | R513 alignment switch (unplanned) |
| 15:24:00 | 17:44:00 | Kiln down (planned) Feed off 18:04 |
| 20:36:00 | 20:43:00 | R513 alignment (unplanned) |
| 20:59:00 | 21:20:00 | R513 alignment (unplanned) |
| 21:38:00 | | |
| | 11:33:00 | Blend silo full (planned) |
| 15:37:00 | 22:41:00 | Blend silo full (planned) |
| 01:02:00 | 12:10:00 | Maintenance and Blend silo full (planned) |
| | 00:06:00 | Blend silo full (planned) |
| 02:06:00 | 09:08:00 | Kiln possibly going down for maintenance (planned) |
| | 04:46:00 | Blend silo full (planned) |
| 05:58:00 | 08:14:00 | Blend silo full (planned) |
| 10:16:00 | 23:44:00 | Blend silo full (planned) |
| 01:46:00 | 08:25:00 | Blend silo full (planned) |
| 11:01:00 | 14:47:00 | Possibly shutting down the kiln (planned) |
| | 06:08:00 | Blend silo full (planned) |
| 08:10:00 | 14:41:00 | Blend silo full (planned) |
| | 05:48:00 | Blend silo full (planned) |
| 08:08:00 | 10:09:00 | R502 belt issue (unplanned) |
| 11:27:00 | 12:25:00 | Posimetric feeder flushed (unplanned) |
| | 05:43:00 | Blend silo full (planned) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |

| | | |
|---|---|---|
| 09:08:00 | 22:59:00 | Blend silo full (planned) |
| | | |

# ATTACHMENT 3

*Dragon Products Company, LLC*

*Daily Raw Feed Constituent Concentrations*

**Dragon Products Company, LLC**
**USEPA and Dragon Products Company, LLC**
**Consent Agreement and Final Order**
**Attachment I: Condition 6: Demonstration Period Data Collection**

**Sheet 3: Raw Feed Material Constituent Concentrations**

**Section 1: Percent of Each Raw Feed Used**

**December, 2014**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 18% | 17% | 23% | 0% | 18% | 27% | 31% | 26% | 15% | 11% | 22% | 25% | 17% | 15% | 27% | 30% | 23% | 29% | 22% | 24% | 33% | 25% | 12% | 16% | 12% | 5% | 12% | 17% | 2% | 0% | 0% |
| **Low Rock (st)** | 24% | 23% | 21% | 0% | 28% | 28% | 10% | 3% | 7% | 11% | 14% | 18% | 24% | 29% | 19% | 4% | 10% | 8% | 9% | 7% | 5% | 10% | 17% | 10% | 4% | 2% | 6% | 17% | 5% | 0% | 0% |
| **Mag Rock (st)** | 47% | 48% | 46% | 0% | 40% | 35% | 49% | 62% | 67% | 65% | 50% | 46% | 48% | 46% | 42% | 54% | 54% | 52% | 56% | 56% | 52% | 55% | 59% | 61% | 71% | 80% | 71% | 55% | 37% | 0% | 0% |
| **Clay (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Sand (st)** | 7% | 8% | 5% | 0% | 0% | 6% | 8% | 6% | 6% | 7% | 11% | 7% | 7% | 9% | 8% | 8% | 10% | 8% | 8% | 8% | 6% | 5% | 7% | 8% | 8% | 8% | 8% | 7% | 43% | 0% | 0% |
| **HI Silica Sand (st)** | 1% | 1% | 1% | 0% | 11% | 1% | 0% | 1% | 1% | 2% | 0% | 2% | 2% | 0% | 2% | 2% | 0% | 1% | 3% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 11% | 0% | 0% |
| **IP Fly Ash (wet) (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Iron Ore (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Copper Slag (st) Iron Replacement** | 2% | 3% | 3% | 0% | 2% | 2% | 2% | 2% | 3% | 3% | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 3% | 3% | 2% | 2% | 2% | 2% | 3% | 2% | 3% | 2% | 2% | 1% | 0% | 0% |
| **Zinc Slag (st) ( IRM )** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CKD (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Spent Catalyst (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CLINKER 229 (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **O.C.S. (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **#2 STOCKPILE (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

**March, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 11% | 29% | 32% | 0% |
| **Low Rock (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 6% | 19% | 26% | 0% |
| **Mag Rock (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 71% | 39% | 29% | 0% |
| **Clay (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Sand (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 7% | 8% | 8% | 0% |
| **HI Silica Sand (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 3% | 3% | 0% |
| **IP Fly Ash (wet) (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Iron Ore (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Copper Slag (st) Iron Replacement** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% | 0% |
| **Zinc Slag (st) ( IRM )** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 0% | 0% | 0% |
| **CKD (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Spent Catalyst (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CLINKER 229 (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **O.C.S. (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **#2 STOCKPILE (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

**April, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 31% | 20% | 32% | 30% | 0% | 31% | 30% | 25% | 30% | 25% | 26% | 39% | 35% | 34% | 29% | 24% | 33% | 24% | 11% | 15% | 15% | 17% | 19% | 18% | 20% | 25% | 24% | 18% | 13% | 20% | 0% |
| **Low Rock (st)** | 27% | 32% | 29% | 31% | 0% | 32% | 26% | 27% | 23% | 25% | 22% | 17% | 18% | 14% | 17% | 14% | 18% | 25% | 28% | 27% | 26% | 16% | 11% | 13% | 15% | 14% | 15% | 14% | 24% | 18% | 0% |
| **Mag Rock (st)** | 30% | 36% | 27% | 29% | 0% | 27% | 33% | 37% | 36% | 39% | 39% | 31% | 34% | 40% | 41% | 49% | 37% | 38% | 49% | 46% | 47% | 53% | 56% | 55% | 51% | 46% | 47% | 52% | 49% | 48% | 0% |
| **Clay (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Sand (st)** | 7% | 7% | 8% | 5% | 0% | 6% | 7% | 6% | 6% | 6% | 7% | 7% | 7% | 6% | 7% | 6% | 5% | 7% | 7% | 8% | 8% | 8% | 8% | 8% | 8% | 8% | 8% | 9% | 7% | 8% | 0% |
| **HI Silica Sand (st)** | 2% | 3% | 3% | 3% | 0% | 3% | 2% | 3% | 3% | 2% | 4% | 3% | 3% | 3% | 2% | 3% | 3% | 2% | 2% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 2% | 3% | 0% |
| **IP Fly Ash (wet) (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Iron Ore (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Copper Slag (st) Iron Replacement** | 1% | 1% | 1% | 1% | 0% | 1% | 1% | 1% | 1% | 2% | 1% | 1% | 1% | 1% | 2% | 2% | 1% | 2% | 1% | 1% | 1% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 0% |
| **Zinc Slag (st) ( IRM )** | 0% | 1% | 1% | 1% | 0% | 0% | 1% | 1% | 0% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 0% |
| **CKD (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Spent Catalyst (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CLINKER 229 (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **O.C.S. (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% | 1% | 1% | 0% |
| **#2 STOCKPILE (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

**May, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 16% | 20% | 0% | 0% | 24% | 24% | 20% | 19% | 22% | 23% | 18% | 29% | 28% | 31% | 22% | 24% | 22% | 17% | 30% | 24% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Low Rock (st)** | 29% | 26% | 0% | 0% | 22% | 21% | 20% | 20% | 18% | 16% | 24% | 30% | 26% | 16% | 17% | 17% | 14% | 17% | 26% | 26% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Mag Rock (st)** | 41% | 43% | 0% | 0% | 43% | 42% | 49% | 48% | 49% | 50% | 46% | 29% | 34% | 41% | 48% | 47% | 53% | 56% | 32% | 38% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Clay (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Sand (st)** | 7% | 6% | 0% | 0% | 6% | 10% | 5% | 8% | 5% | 6% | 6% | 6% | 6% | 7% | 8% | 6% | 6% | 6% | 7% | 7% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **HI Silica Sand (st)** | 4% | 3% | 0% | 0% | 2% | 0% | 4% | 2% | 3% | 3% | 3% | 4% | 3% | 4% | 3% | 3% | 3% | 3% | 2% | 2% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **IP Fly Ash (wet) (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Iron Ore (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Copper Slag (st) Iron Replacement** | 2% | 2% | 0% | 0% | 3% | 2% | 1% | 1% | 2% | 2% | 2% | 2% | 1% | 1% | 1% | 1% | 1% | 1% | 2% | 1% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Zinc Slag (st) ( IRM )** | 1% | 1% | 0% | 0% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CKD (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Spent Catalyst (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CLINKER 229 (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **O.C.S. (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **#2 STOCKPILE (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

**June, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 0% | 26% | 17% | 15% | 17% | 16% | 17% | 15% | 18% | 12% | 20% | 19% | 17% | 20% | 16% | 13% | 9% | 13% | 20% | 16% | 21% | 19% | 17% | 10% | 15% | 25% | 18% | 20% | 20% | 10% | 0% |
| **Low Rock (st)** | 0% | 23% | 17% | 17% | 14% | 15% | 10% | 10% | 18% | 21% | 22% | 23% | 20% | 19% | 17% | 17% | 21% | 17% | 9% | 13% | 8% | 10% | 9% | 7% | 9% | 8% | 10% | 11% | 12% | 15% | 0% |
| **Mag Rock (st)** | 0% | 39% | 53% | 56% | 56% | 57% | 60% | 62% | 52% | 55% | 46% | 46% | 51% | 50% | 55% | 58% | 58% | 58% | 59% | 60% | 58% | 58% | 62% | 72% | 65% | 54% | 60% | 57% | 57% | 64% | 0% |
| **Clay (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Sand (st)** | 0% | 7% | 7% | 7% | 8% | 8% | 7% | 7% | 6% | 7% | 7% | 8% | 7% | 7% | 7% | 7% | 7% | 7% | 7% | 7% | 7% | 7% | 7% | 6% | 6% | 7% | 7% | 7% | 6% | 7% | 0% |
| **HI Silica Sand (st)** | 0% | 2% | 3% | 3% | 3% | 2% | 3% | 3% | 3% | 3% | 3% | 2% | 3% | 2% | 2% | 3% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 3% | 3% | 2% | 2% | 3% | 3% | 0% |
| **IP Fly Ash (wet) (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Iron Ore (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Copper Slag (st) Iron Replacement** | 0% | 1% | 1% | 1% | 2% | 1% | 1% | 1% | 1% | 1% | 2% | 1% | 1% | 2% | 1% | 2% | 1% | 1% | 1% | 1% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 1% | 1% | 2% | 0% |
| **Zinc Slag (st) ( IRM )** | 0% | 1% | 2% | 1% | 1% | 1% | 2% | 2% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 0% |
| **CKD (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Spent Catalyst (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CLINKER 229 (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **O.C.S. (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 0% | 0% |
| **#2 STOCKPILE (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

**July, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
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| **Sweet Rock (st)** | 12% | 12% | 13% | 17% | 16% | 19% | 9% | 9% | 11% | 12% | 16% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Low Rock (st)** | 12% | 11% | 8% | 11% | 7% | 4% | 7% | 8% | 9% | 5% | 8% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Mag Rock (st)** | 63% | 64% | 67% | 60% | 66% | 65% | 73% | 72% | 70% | 72% | 67% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Clay (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Sand (st)** | 8% | 7% | 7% | 7% | 7% | 7% | 6% | 7% | 6% | 6% | 6% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **HI Silica Sand (st)** | 3% | 2% | 2% | 2% | 2% | 2% | 3% | 2% | 2% | 2% | 2% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **IP Fly Ash (wet) (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Iron Ore (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Copper Slag (st) Iron Replacement** | 2% | 2% | 2% | 2% | 2% | 1% | 2% | 2% | 2% | 2% | 1% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Zinc Slag (st) ( IRM )** | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CKD (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Spent Catalyst (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CLINKER 229 (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **O.C.S. (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **#2 STOCKPILE (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

**August, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
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| **Sweet Rock (st)** | 0% | 0% | 0% | 0% | 0% | 23% | 27% | 26% | 24% | 21% | 9% | 21% | 17% | 17% | 16% | 16% | 14% | 12% | 24% | 15% | 14% | 16% | 14% | 11% | 10% | 11% | 10% | 12% | 16% | 14% | 31% |
| **Low Rock (st)** | 0% | 0% | 0% | 0% | 0% | 11% | 11% | 10% | 8% | 7% | 16% | 7% | 11% | 12% | 13% | 8% | 11% | 13% | 8% | 9% | 16% | 18% | 19% | 16% | 16% | 15% | 13% | 13% | 10% | 12% | 16% |
| **Mag Rock (st)** | 0% | 0% | 0% | 0% | 0% | 56% | 53% | 52% | 56% | 61% | 63% | 59% | 61% | 60% | 59% | 65% | 66% | 63% | 57% | 65% | 58% | 54% | 55% | 62% | 62% | 64% | 65% | 59% | 60% | 58% | 40% |
| **Clay (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Sand (st)** | 0% | 0% | 0% | 0% | 0% | 7% | 6% | 7% | 6% | 6% | 7% | 8% | 7% | 7% | 7% | 5% | 4% | 7% | 6% | 7% | 7% | 7% | 7% | 7% | 7% | 6% | 6% | 9% | 8% | 9% | 8% |
| **HI Silica Sand (st)** | 0% | 0% | 0% | 0% | 0% | 3% | 3% | 2% | 2% | 3% | 3% | 3% | 2% | 2% | 2% | 3% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 4% | 5% | 3% | 4% | 3% |
| **IP Fly Ash (wet) (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Iron Ore (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Copper Slag (st) Iron Replacement** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 1% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% |
| **Zinc Slag (st) ( IRM )** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 0% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% |
| **CKD (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Spent Catalyst (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CLINKER 229 (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **O.C.S. (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **#2 STOCKPILE (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

**September, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
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| **Sweet Rock (st)** | 15% | 21% | 17% | 28% | 21% | 27% | 23% | 25% | 29% | 28% | 23% | 25% | 25% | 37% | 35% | 32% | 22% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Low Rock (st)** | 16% | 17% | 21% | 15% | 16% | 15% | 11% | 2% | 12% | 16% | 18% | 15% | 14% | 12% | 15% | 14% | 17% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Mag Rock (st)** | 54% | 46% | 48% | 44% | 49% | 45% | 50% | 43% | 47% | 43% | 47% | 48% | 48% | 38% | 37% | 41% | 47% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Clay (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Sand (st)** | 10% | 10% | 9% | 8% | 8% | 8% | 10% | 20% | 7% | 8% | 7% | 7% | 8% | 8% | 8% | 8% | 9% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **HI Silica Sand (st)** | 3% | 3% | 3% | 3% | 3% | 3% | 3% | 7% | 2% | 2% | 2% | 3% | 3% | 3% | 3% | 2% | 2% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **IP Fly Ash (wet) (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Iron Ore (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Copper Slag (st) Iron Replacement** | 1% | 1% | 1% | 2% | 2% | 2% | 2% | 1% | 1% | 1% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Zinc Slag (st) ( IRM )** | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CKD (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Spent Catalyst (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CLINKER 229 (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **O.C.S. (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **#2 STOCKPILE (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

**October, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
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| **Sweet Rock (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 20% | 18% | 36% | 27% | 21% | 17% | 19% | 21% | 25% | 20% | 25% | 23% | 20% | 30% | 21% | 12% | 17% | 11% | 17% | 17% | 23% | 12% | 10% | 11% |
| **Low Rock (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 13% | 17% | 14% | 16% | 17% | 19% | 16% | 18% | 16% | 30% | 27% | 27% | 24% | 16% | 19% | 20% | 8% | 12% | 17% | 17% | 18% | 17% | 15% | 19% |
| **Mag Rock (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 55% | 54% | 38% | 44% | 51% | 52% | 52% | 49% | 45% | 39% | 38% | 38% | 39% | 37% | 42% | 49% | 54% | 57% | 47% | 46% | 40% | 50% | 53% | 50% |
| **Clay (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Sand (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 7% | 6% | 7% | 8% | 7% | 7% | 8% | 7% | 7% | 6% | 6% | 7% | 12% | 12% | 12% | 14% | 15% | 14% | 13% | 14% | 14% | 15% | 16% | 15% |
| **HI Silica Sand (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 2% | 3% | 2% | 2% | 3% | 3% | 3% | 3% | 3% | 2% | 2% | 2% | 2% | 3% | 3% | 3% | 2% | 3% | 3% | 3% | 3% | 3% |
| **IP Fly Ash (wet) (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Iron Ore (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Copper Slag (st) Iron Replacement** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 2% | 1% | 2% | 2% | 2% | 2% | 2% | 1% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 1% | 1% | 1% |
| **Zinc Slag (st) ( IRM )** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 2% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 2% | 2% | 2% |
| **CKD (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Spent Catalyst (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CLINKER 229 (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **O.C.S. (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **#2 STOCKPILE (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

**November, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 17% | 24% | 27% | 24% | 14% | 13% | 20% | 18% | 25% | 18% | 15% | 29% | 26% | 21% | 27% | 35% | 29% | 20% | 0% | 28% | 0% | 0% | 0% | 0% | 0% | 23% | 23% | 20% | 0% | 0% | 0% |
| **Low Rock (st)** | 24% | 19% | 16% | 15% | 14% | 13% | 17% | 24% | 19% | 18% | 17% | 20% | 14% | 15% | 19% | 16% | 20% | 28% | 0% | 21% | 0% | 0% | 0% | 0% | 0% | 18% | 23% | 25% | 0% | 0% | 0% |
| **Mag Rock (st)** | 40% | 38% | 39% | 44% | 55% | 56% | 47% | 42% | 43% | 48% | 54% | 35% | 42% | 47% | 40% | 31% | 35% | 35% | 0% | 34% | 0% | 0% | 0% | 0% | 0% | 42% | 38% | 38% | 0% | 0% | 0% |
| **Clay (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Sand (st)** | 14% | 14% | 13% | 12% | 11% | 13% | 12% | 11% | 9% | 11% | 10% | 11% | 12% | 12% | 9% | 13% | 11% | 12% | 0% | 13% | 0% | 0% | 0% | 0% | 0% | 13% | 12% | 12% | 0% | 0% | 0% |
| **HI Silica Sand (st)** | 3% | 3% | 3% | 2% | 4% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 3% | 2% | 2% | 0% | 1% | 0% | 0% | 0% | 0% | 0% | 1% | 2% | 2% | 0% | 0% | 0% |
| **IP Fly Ash (wet) (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Iron Ore (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Copper Slag (st) Iron Replacement** | 2% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 0% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 2% | 1% | 1% | 0% | 0% | 0% |
| **Zinc Slag (st) ( IRM )** | 1% | 2% | 2% | 2% | 2% | 2% | 2% | 1% | 1% | 1% | 1% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 0% | 2% | 0% | 0% | 0% | 0% | 0% | 1% | 1% | 2% | 0% | 0% | 0% |
| **CKD (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Spent Catalyst (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CLINKER 229 (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **O.C.S. (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **#2 STOCKPILE (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

**December, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 15% | 23% | 16% | 13% | 19% | 17% | 16% | 16% | 21% | 25% | 19% | 19% | 21% | 21% | 38% | 32% | 23% | 24% | 24% | 15% | 16% | 15% | 19% | 14% | 14% | 20% | 0% | 0% | 0% | 0% | 0% |
| **Low Rock (st)** | 28% | 24% | 26% | 28% | 26% | 23% | 23% | 15% | 17% | 14% | 21% | 25% | 24% | 25% | 10% | 16% | 21% | 18% | 12% | 19% | 18% | 19% | 14% | 14% | 13% | 10% | 0% | 0% | 0% | 0% | 0% |
| **Mag Rock (st)** | 38% | 36% | 41% | 39% | 37% | 38% | 42% | 48% | 43% | 35% | 32% | 33% | 31% | 33% | 30% | 33% | 35% | 35% | 43% | 48% | 51% | 47% | 49% | 55% | 55% | 29% | 0% | 0% | 0% | 0% | 0% |
| **Clay (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Sand (st)** | 14% | 12% | 12% | 14% | 14% | 15% | 14% | 16% | 13% | 20% | 22% | 18% | 18% | 17% | 16% | 14% | 16% | 19% | 18% | 16% | 10% | 14% | 16% | 16% | 16% | 40% | 0% | 0% | 0% | 0% | 0% |
| **HI Silica Sand (st)** | 3% | 2% | 2% | 3% | 3% | 3% | 3% | 3% | 3% | 4% | 4% | 3% | 3% | 3% | 3% | 3% | 3% | 1% | 1% | 1% | 2% | 3% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **IP Fly Ash (wet) (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Iron Ore (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Copper Slag (st) Iron Replacement** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 1% | 1% | 1% | 1% | 0% | 1% | 1% | 0% | 0% | 1% | 0% | 1% | 1% | 1% | 1% | 2% | 1% | 0% | 0% | 0% | 0% | 0% |
| **Zinc Slag (st) ( IRM )** | 2% | 2% | 2% | 3% | 2% | 3% | 2% | 2% | 2% | 2% | 1% | 1% | 1% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 2% | 1% | 1% | 1% | 1% | 0% | 0% | 0% | 0% | 0% |
| **CKD (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **Spent Catalyst (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **CLINKER 229 (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **O.C.S. (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| **#2 STOCKPILE (st)** | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

**Section 2: Total Quantity (tons) of Each Raw Feed Used**

**December, 2014**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 730.61 | 609.56 | 896.84 | 0.00 | 392.89 | 1,193.24 | 1,057.70 | 834.44 | 570.78 | 375.09 | 678.77 | 547.49 | 676.53 | 580.53 | 1,092.00 | 832.00 | 917.00 | 1,161.00 | 825.00 | 1,039.00 | 1,047.00 | 1,063.00 | 483.00 | 524.00 | 486.00 | 155.00 | 483.00 | 680.00 | 12.00 | 0.00 | 0.00 |
| **Low Rock (st)** | 957.33 | 827.64 | 835.56 | 0.00 | 617.76 | 1,214.73 | 338.58 | 103.01 | 276.21 | 379.17 | 434.61 | 394.07 | 927.99 | 1,142.51 | 764.10 | 121.50 | 394.20 | 302.40 | 318.60 | 308.70 | 159.30 | 422.10 | 683.10 | 328.50 | 153.00 | 76.50 | 236.70 | 658.80 | 26.10 | 0.00 | 0.00 |
| **Mag Rock (st)** | 1,882.16 | 1,695.12 | 1,806.22 | 0.00 | 888.74 | 1,539.77 | 1,665.53 | 2,015.23 | 2,481.55 | 2,195.22 | 1,500.54 | 1,024.91 | 1,873.86 | 1,838.22 | 1,701.59 | 1,484.14 | 2,151.70 | 2,066.30 | 2,069.19 | 2,368.10 | 1,682.44 | 2,297.65 | 2,345.52 | 1,997.99 | 2,788.33 | 2,602.75 | 2,863.97 | 2,184.02 | 194.40 | 0.00 | 0.00 |
| **Clay (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Sand (st)** | 276.31 | 269.63 | 212.42 | 0.00 | 0.00 | 280.30 | 256.78 | 202.79 | 238.99 | 248.42 | 326.69 | 143.80 | 269.24 | 355.91 | 307.80 | 213.24 | 392.58 | 310.66 | 290.96 | 346.06 | 188.94 | 228.48 | 277.17 | 263.43 | 322.67 | 263.09 | 306.73 | 288.12 | 225.88 | 0.00 | 0.00 |
| **HI Silica Sand (st)** | 54.06 | 43.96 | 47.96 | 0.00 | 248.75 | 63.70 | 0.00 | 39.68 | 53.77 | 55.89 | 0.00 | 34.39 | 64.38 | 0.00 | 61.56 | 42.65 | 0.00 | 47.46 | 115.36 | 75.85 | 66.32 | 74.60 | 68.69 | 66.01 | 80.20 | 65.39 | 76.35 | 71.72 | 56.23 | 0.00 | 0.00 |
| **IP Fly Ash (wet) (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Iron Ore (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Copper Slag (st) Iron Replacement** | 93.38 | 90.00 | 100.13 | 0.00 | 47.50 | 86.63 | 75.38 | 74.52 | 94.50 | 97.88 | 86.63 | 62.64 | 103.68 | 82.08 | 85.91 | 64.17 | 95.22 | 106.61 | 96.26 | 103.50 | 68.31 | 90.05 | 98.33 | 83.84 | 97.29 | 85.91 | 92.12 | 81.77 | 6.21 | 0.00 | 0.00 |
| **Zinc Slag (st) ( IRM )** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CKD (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Spent Catalyst (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CLINKER 229 (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **O.C.S. (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **#2 STOCKPILE (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**March, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 26.00 | 1,050.00 | 842.00 | 0.00 |
| **Low Rock (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 14.40 | 700.20 | 666.00 | 0.00 |
| **Mag Rock (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 163.35 | 1,388.21 | 768.08 | 0.00 |
| **Clay (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Sand (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 16.32 | 280.27 | 195.92 | 0.00 |
| **HI Silica Sand (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.83 | 93.82 | 82.55 | 0.00 |
| **IP Fly Ash (wet) (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Iron Ore (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Copper Slag (st) Iron Replacement** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.99 | 66.24 | 41.40 | 0.00 |
| **Zinc Slag (st) ( IRM )** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.22 | 16.56 | 10.35 | 0.00 |
| **CKD (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Spent Catalyst (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CLINKER 229 (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **O.C.S. (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **#2 STOCKPILE (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**April, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 960.75 | 418.95 | 922.95 | 897.75 | 0.00 | 122.85 | 1,024.80 | 464.10 | 1,313.40 | 465.56 | 917.73 | 1,568.69 | 908.46 | 1,350.33 | 1,052.66 | 862.11 | 804.43 | 786.92 | 309.00 | 610.79 | 256.47 | 627.27 | 606.67 | 556.20 | 855.93 | 1,013.52 | 861.08 | 713.79 | 179.22 | 830.18 | 0.00 |
| **Low Rock (st)** | 850.50 | 666.23 | 809.87 | 901.53 | 0.00 | 124.74 | 863.73 | 498.02 | 1,011.78 | 462.57 | 784.24 | 702.67 | 464.43 | 570.11 | 629.43 | 504.29 | 442.49 | 842.64 | 783.32 | 1,066.98 | 445.89 | 597.92 | 340.21 | 403.25 | 655.39 | 575.67 | 553.42 | 564.54 | 325.38 | 756.43 | 0.00 |
| **Mag Rock (st)** | 933.36 | 756.14 | 759.26 | 865.04 | 0.00 | 103.86 | 1,107.60 | 682.22 | 1,578.47 | 739.51 | 1,396.21 | 1,262.49 | 883.81 | 1,553.60 | 1,473.64 | 1,738.06 | 888.21 | 1,271.07 | 1,383.61 | 1,841.71 | 824.71 | 1,963.68 | 1,744.44 | 1,754.06 | 2,197.68 | 1,852.57 | 1,690.55 | 2,063.91 | 654.68 | 2,042.26 | 0.00 |
| **Clay (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Sand (st)** | 230.96 | 154.40 | 222.27 | 160.86 | 0.00 | 22.04 | 232.36 | 106.72 | 270.29 | 120.50 | 245.20 | 282.84 | 166.97 | 239.80 | 268.62 | 223.52 | 113.17 | 242.54 | 198.20 | 303.83 | 131.05 | 296.65 | 253.62 | 260.14 | 355.33 | 333.17 | 294.80 | 337.87 | 98.34 | 332.20 | 0.00 |
| **HI Silica Sand (st)** | 76.87 | 58.18 | 85.83 | 81.69 | 0.00 | 12.92 | 77.90 | 50.72 | 128.45 | 41.96 | 124.52 | 132.54 | 84.80 | 121.78 | 89.31 | 107.00 | 63.61 | 80.64 | 65.90 | 101.01 | 43.57 | 98.63 | 84.32 | 86.49 | 118.14 | 110.77 | 99.57 | 114.28 | 33.26 | 112.36 | 0.00 |
| **IP Fly Ash (wet) (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Iron Ore (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Copper Slag (st) Iron Replacement** | 43.47 | 21.13 | 21.60 | 28.63 | 0.00 | 3.88 | 40.70 | 22.17 | 65.21 | 30.56 | 48.07 | 37.95 | 36.60 | 56.19 | 57.79 | 57.14 | 31.08 | 50.27 | 36.41 | 50.46 | 20.67 | 72.19 | 53.33 | 54.76 | 77.60 | 70.23 | 63.46 | 76.69 | 21.16 | 65.46 | 0.00 |
| **Zinc Slag (st) ( IRM )** | 14.49 | 10.96 | 19.80 | 14.84 | 0.00 | 1.29 | 28.64 | 15.09 | 21.74 | 14.98 | 30.59 | 55.20 | 23.43 | 41.10 | 40.54 | 41.18 | 26.88 | 30.46 | 28.80 | 34.41 | 11.41 | 24.06 | 40.85 | 41.50 | 48.67 | 47.76 | 43.15 | 43.37 | 15.07 | 56.67 | 0.00 |
| **CKD (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Spent Catalyst (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CLINKER 229 (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **O.C.S. (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 9.46 | 16.24 | 52.04 | 8.54 | 6.98 | 10.70 | 4.61 | 10.44 | 8.93 | 9.16 | 12.51 | 11.73 | 21.23 | 24.84 | 7.23 | 24.43 | 0.00 |
| **#2 STOCKPILE (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**May, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 519.00 | 716.00 | 0.00 | 0.00 | 13.00 | 1,012.00 | 405.00 | 770.00 | 876.70 | 965.11 | 757.05 | 999.10 | 1,175.23 | 851.81 | 828.12 | 855.93 | 735.42 | 612.85 | 853.87 | 572.68 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Low Rock (st)** | 966.60 | 918.00 | 0.00 | 0.00 | 11.70 | 903.60 | 413.10 | 791.10 | 716.76 | 668.37 | 1,005.80 | 1,043.80 | 1,079.96 | 430.54 | 665.59 | 596.06 | 482.04 | 609.97 | 733.26 | 621.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Mag Rock (st)** | 1,388.88 | 1,528.00 | 0.00 | 0.00 | 23.04 | 1,752.30 | 1,006.78 | 1,914.45 | 1,929.98 | 2,126.65 | 1,898.99 | 993.59 | 1,439.98 | 1,113.19 | 1,854.33 | 1,681.71 | 1,782.84 | 2,036.23 | 910.09 | 887.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Clay (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Sand (st)** | 218.81 | 219.14 | 0.00 | 0.00 | 2.97 | 440.10 | 112.08 | 301.91 | 215.20 | 253.92 | 255.53 | 212.35 | 268.12 | 179.51 | 292.45 | 226.75 | 196.95 | 204.54 | 187.58 | 163.74 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **HI Silica Sand (st)** | 135.81 | 109.57 | 0.00 | 0.00 | 1.00 | 0.00 | 76.33 | 75.04 | 126.15 | 126.96 | 110.14 | 138.21 | 123.66 | 95.95 | 97.48 | 112.40 | 97.62 | 101.39 | 62.53 | 54.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **IP Fly Ash (wet) (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Iron Ore (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Copper Slag (st) Iron Replacement** | 68.84 | 54.32 | 0.00 | 0.00 | 1.55 | 73.74 | 28.02 | 56.20 | 61.15 | 76.35 | 62.38 | 53.21 | 51.52 | 38.92 | 51.48 | 50.53 | 41.91 | 45.60 | 42.69 | 34.93 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Zinc Slag (st) ( IRM )** | 49.50 | 42.97 | 0.00 | 0.00 | 0.52 | 24.58 | 17.52 | 43.16 | 41.32 | 36.47 | 42.15 | 36.84 | 39.56 | 23.18 | 35.46 | 34.34 | 28.47 | 30.99 | 14.23 | 11.64 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CKD (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Spent Catalyst (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CLINKER 229 (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **O.C.S. (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **#2 STOCKPILE (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**June, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 0.00 | 934.00 | 819.00 | 520.00 | 471.00 | 589.90 | 681.00 | 544.00 | 685.30 | 482.04 | 323.42 | 753.96 | 424.36 | 832.24 | 600.95 | 349.46 | 227.25 | 425.21 | 845.37 | 595.90 | 791.84 | 766.59 | 353.50 | 395.92 | 711.04 | 862.54 | 615.09 | 754.47 | 929.20 | 346.43 | 0.00 |
| **Low Rock (st)** | 0.00 | 811.80 | 816.30 | 600.30 | 404.10 | 558.90 | 398.70 | 367.20 | 667.26 | 838.94 | 368.95 | 909.39 | 496.87 | 808.34 | 633.14 | 446.81 | 517.27 | 551.57 | 391.19 | 466.28 | 279.95 | 397.68 | 180.77 | 301.28 | 405.10 | 292.93 | 364.31 | 433.84 | 549.71 | 509.85 | 0.00 |
| **Mag Rock (st)** | 0.00 | 1,368.59 | 2,582.17 | 1,963.21 | 1,555.34 | 2,173.58 | 2,349.03 | 2,232.00 | 1,969.20 | 2,249.30 | 757.81 | 1,856.09 | 1,280.16 | 2,113.55 | 2,084.25 | 1,529.59 | 1,471.43 | 1,928.46 | 2,480.24 | 2,193.72 | 2,153.51 | 2,337.67 | 1,251.83 | 2,873.55 | 3,039.95 | 1,897.72 | 2,098.14 | 2,162.31 | 2,642.30 | 2,225.90 | 0.00 |
| **Clay (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Sand (st)** | 0.00 | 256.29 | 344.84 | 231.90 | 210.50 | 314.18 | 266.54 | 259.66 | 222.35 | 273.62 | 113.01 | 314.72 | 188.89 | 303.71 | 266.77 | 186.74 | 181.65 | 238.32 | 314.88 | 241.38 | 274.09 | 296.97 | 135.37 | 254.78 | 279.10 | 243.29 | 258.11 | 276.83 | 273.91 | 231.89 | 0.00 |
| **HI Silica Sand (st)** | 0.00 | 82.80 | 161.30 | 106.75 | 70.17 | 69.14 | 116.42 | 103.76 | 113.00 | 124.74 | 50.54 | 94.41 | 71.22 | 96.76 | 79.81 | 66.95 | 61.47 | 75.47 | 104.55 | 86.53 | 90.58 | 82.80 | 44.95 | 84.60 | 131.34 | 102.10 | 85.47 | 91.92 | 127.53 | 89.53 | 0.00 |
| **IP Fly Ash (wet) (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Iron Ore (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Copper Slag (st) Iron Replacement** | 0.00 | 52.15 | 37.95 | 35.30 | 49.69 | 53.99 | 35.17 | 38.73 | 42.48 | 49.07 | 29.20 | 56.86 | 34.97 | 66.91 | 53.99 | 39.88 | 35.58 | 40.13 | 54.79 | 54.04 | 60.13 | 60.04 | 35.17 | 67.73 | 82.72 | 58.63 | 61.66 | 53.33 | 56.80 | 63.90 | 0.00 |
| **Zinc Slag (st) ( IRM )** | 0.00 | 35.83 | 75.90 | 52.67 | 34.14 | 37.09 | 61.08 | 59.59 | 50.67 | 55.47 | 12.20 | 28.01 | 24.03 | 28.31 | 37.09 | 27.40 | 24.45 | 39.56 | 39.40 | 38.07 | 47.51 | 54.85 | 20.72 | 39.91 | 40.44 | 34.52 | 30.45 | 38.79 | 63.26 | 25.11 | 0.00 |
| **CKD (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Spent Catalyst (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CLINKER 229 (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **O.C.S. (st)** | 0.00 | 12.42 | 16.69 | 11.04 | 0.00 | 0.00 | 20.79 | 7.69 | 7.29 | 12.90 | 1.74 | 17.98 | 2.62 | 0.00 | 15.20 | 3.95 | 2.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 30.18 | 0.00 | 0.00 |
| **#2 STOCKPILE (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**July, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 384.00 | 503.00 | 469.00 | 710.00 | 571.00 | 759.00 | 321.00 | 320.00 | 398.20 | 479.98 | 109.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Low Rock (st)** | 405.00 | 440.10 | 288.90 | 430.20 | 248.40 | 160.20 | 274.50 | 274.50 | 335.61 | 215.99 | 51.91 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Mag Rock (st)** | 2,078.39 | 2,593.56 | 2,467.22 | 2,465.51 | 2,427.68 | 2,597.98 | 2,730.42 | 2,567.69 | 2,634.97 | 2,976.15 | 457.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Clay (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Sand (st)** | 246.16 | 293.59 | 260.90 | 276.21 | 244.48 | 267.51 | 224.85 | 248.26 | 219.68 | 258.07 | 37.88 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **HI Silica Sand (st)** | 82.05 | 93.95 | 83.49 | 92.38 | 78.23 | 85.60 | 97.53 | 73.95 | 73.23 | 82.58 | 12.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **IP Fly Ash (wet) (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Iron Ore (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Copper Slag (st) Iron Replacement** | 54.78 | 67.26 | 64.49 | 74.89 | 59.26 | 57.53 | 63.48 | 65.93 | 68.50 | 77.63 | 8.85 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Zinc Slag (st) ( IRM )** | 26.98 | 33.13 | 31.76 | 36.89 | 34.92 | 50.11 | 31.74 | 28.26 | 25.69 | 25.88 | 7.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CKD (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Spent Catalyst (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CLINKER 229 (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **O.C.S. (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **#2 STOCKPILE (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**August, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 598.00 | 951.00 | 782.00 | 706.20 | 779.71 | 273.98 | 769.41 | 249.26 | 447.02 | 687.81 | 770.63 | 298.96 | 192.91 | 266.64 | 540.35 | 663.57 | 514.09 | 556.51 | 379.76 | 330.27 | 380.77 | 336.33 | 486.82 | 511.06 | 546.41 | 1,043.33 |
| **Low Rock (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 297.90 | 375.30 | 292.50 | 234.63 | 262.34 | 494.09 | 277.17 | 153.88 | 330.94 | 546.93 | 392.12 | 235.46 | 203.01 | 92.70 | 320.74 | 750.87 | 591.43 | 719.35 | 559.91 | 513.56 | 529.32 | 459.79 | 495.95 | 326.30 | 474.62 | 563.62 |
| **Mag Rock (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,485.06 | 1,864.91 | 1,592.94 | 1,633.72 | 2,238.32 | 1,973.48 | 2,202.55 | 881.64 | 1,604.14 | 2,527.91 | 3,037.49 | 1,411.87 | 980.14 | 648.36 | 2,394.41 | 2,734.26 | 1,771.92 | 2,139.40 | 2,213.76 | 2,004.55 | 2,204.66 | 2,210.25 | 2,328.19 | 1,957.14 | 2,201.85 | 1,383.54 |
| **Clay (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Sand (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 182.08 | 211.73 | 207.67 | 183.03 | 202.61 | 233.03 | 285.64 | 94.50 | 179.05 | 293.10 | 225.68 | 80.59 | 101.62 | 73.26 | 269.67 | 318.34 | 230.85 | 273.55 | 250.69 | 230.66 | 206.06 | 205.89 | 375.59 | 259.73 | 332.10 | 257.09 |
| **HI Silica Sand (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 69.96 | 104.47 | 69.45 | 65.24 | 94.42 | 78.55 | 96.28 | 31.50 | 59.68 | 97.70 | 146.80 | 79.08 | 33.29 | 24.00 | 89.12 | 105.88 | 76.95 | 91.41 | 86.44 | 76.89 | 55.48 | 120.10 | 182.67 | 106.87 | 166.05 | 85.98 |
| **IP Fly Ash (wet) (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Iron Ore (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Copper Slag (st) Iron Replacement** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 58.03 | 46.73 | 65.55 | 62.04 | 78.89 | 26.35 | 48.99 | 74.62 | 93.15 | 32.71 | 27.26 | 19.91 | 58.94 | 71.18 | 53.49 | 55.41 | 59.73 | 49.68 | 59.73 | 57.59 | 60.86 | 51.10 | 60.13 | 60.13 |
| **Zinc Slag (st) ( IRM )** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 34.08 | 29.86 | 32.78 | 21.80 | 27.72 | 12.98 | 24.50 | 31.98 | 18.63 | 14.90 | 11.04 | 9.07 | 29.03 | 46.81 | 26.20 | 36.71 | 27.21 | 33.12 | 27.21 | 26.24 | 26.08 | 30.66 | 25.77 | 25.77 |
| **CKD (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Spent Catalyst (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CLINKER 229 (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **O.C.S. (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 13.99 | 14.44 | 0.00 | 7.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **#2 STOCKPILE (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**September, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 548.00 | 608.00 | 545.00 | 923.00 | 754.00 | 993.00 | 834.00 | 336.00 | 420.20 | 968.20 | 762.20 | 849.75 | 923.91 | 1,126.62 | 1,268.56 | 1,208.97 | 283.10 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Low Rock (st)** | 574.20 | 502.20 | 656.10 | 501.30 | 589.50 | 571.50 | 403.20 | 31.50 | 178.20 | 539.51 | 578.45 | 508.00 | 538.59 | 381.35 | 530.15 | 545.29 | 223.16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Mag Rock (st)** | 1,998.00 | 1,314.00 | 1,512.53 | 1,463.68 | 1,776.65 | 1,655.93 | 1,821.46 | 578.11 | 667.37 | 1,477.61 | 1,529.50 | 1,663.59 | 1,791.49 | 1,153.96 | 1,334.89 | 1,547.39 | 603.87 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Clay (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Sand (st)** | 353.44 | 296.83 | 276.69 | 257.64 | 284.81 | 297.73 | 381.10 | 273.53 | 100.15 | 270.84 | 234.14 | 237.79 | 282.63 | 234.75 | 291.52 | 306.21 | 109.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **HI Silica Sand (st)** | 117.36 | 99.27 | 91.87 | 85.88 | 94.94 | 99.24 | 127.03 | 91.46 | 33.49 | 79.59 | 78.31 | 91.68 | 108.97 | 78.52 | 106.40 | 81.71 | 29.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **IP Fly Ash (wet) (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Iron Ore (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Copper Slag (st) Iron Replacement** | 53.69 | 41.40 | 42.69 | 53.13 | 65.92 | 56.58 | 56.17 | 18.63 | 20.11 | 49.68 | 53.13 | 59.28 | 70.99 | 62.10 | 65.18 | 76.80 | 24.27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Zinc Slag (st) ( IRM )** | 32.21 | 24.84 | 25.62 | 26.57 | 29.30 | 28.29 | 27.67 | 9.32 | 9.90 | 24.84 | 26.57 | 33.87 | 40.56 | 31.05 | 32.11 | 32.91 | 11.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CKD (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Spent Catalyst (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CLINKER 229 (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **O.C.S. (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **#2 STOCKPILE (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**October, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 39.00 | 631.40 | 1,514.10 | 1,083.56 | 774.56 | 494.40 | 749.70 | 603.90 | 858.60 | 624.60 | 955.80 | 739.80 | 270.00 | 1,109.70 | 736.20 | 429.30 | 668.70 | 270.00 | 527.40 | 125.10 | 710.81 | 523.70 | 337.50 | 367.20 |
| **Low Rock (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 25.20 | 605.88 | 595.13 | 630.36 | 622.02 | 533.03 | 613.90 | 515.89 | 558.66 | 964.06 | 1,056.73 | 887.44 | 329.67 | 615.60 | 671.18 | 699.39 | 334.31 | 287.28 | 533.52 | 127.40 | 568.58 | 733.59 | 495.90 | 625.86 |
| **Mag Rock (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 106.82 | 1,914.21 | 1,576.69 | 1,722.15 | 1,902.82 | 1,485.10 | 2,020.23 | 1,417.58 | 1,550.69 | 1,229.49 | 1,460.88 | 1,234.35 | 532.41 | 1,367.10 | 1,455.30 | 1,717.52 | 2,108.93 | 1,347.44 | 1,474.16 | 340.20 | 1,277.25 | 2,161.66 | 1,693.94 | 1,638.72 |
| **Clay (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Sand (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 13.72 | 210.64 | 296.77 | 307.01 | 247.20 | 213.93 | 297.82 | 191.75 | 231.88 | 181.37 | 217.76 | 214.10 | 164.86 | 458.60 | 435.38 | 487.62 | 582.82 | 336.69 | 416.80 | 101.01 | 426.38 | 629.37 | 506.90 | 489.89 |
| **HI Silica Sand (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.57 | 70.21 | 99.20 | 102.02 | 82.19 | 71.55 | 98.89 | 93.10 | 108.84 | 87.53 | 105.09 | 71.37 | 30.67 | 85.32 | 81.00 | 90.72 | 108.43 | 62.64 | 77.54 | 18.79 | 81.22 | 119.88 | 96.55 | 93.31 |
| **IP Fly Ash (wet) (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Iron Ore (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Copper Slag (st) Iron Replacement** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.41 | 53.12 | 60.24 | 65.83 | 68.07 | 54.95 | 73.83 | 55.06 | 49.04 | 49.77 | 64.70 | 56.58 | 22.88 | 71.76 | 71.07 | 74.62 | 92.74 | 48.99 | 60.33 | 13.48 | 62.10 | 42.77 | 28.51 | 28.11 |
| **Zinc Slag (st) ( IRM )** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.77 | 27.61 | 40.16 | 43.88 | 30.25 | 20.61 | 36.92 | 23.60 | 52.39 | 36.13 | 33.63 | 28.29 | 11.27 | 35.88 | 35.54 | 31.98 | 39.74 | 24.50 | 29.71 | 8.26 | 31.05 | 85.53 | 57.03 | 63.25 |
| **CKD (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Spent Catalyst (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CLINKER 229 (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **O.C.S. (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **#2 STOCKPILE (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**November, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 519.30 | 770.40 | 690.30 | 952.20 | 540.90 | 456.30 | 766.80 | 626.40 | 1,051.60 | 679.41 | 637.57 | 966.60 | 831.60 | 776.70 | 787.50 | 1,165.50 | 900.00 | 634.50 | 0.00 | 67.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 675.00 | 519.30 | 481.50 | 0.00 | 0.00 | 0.00 |
| **Low Rock (st)** | 740.43 | 607.05 | 402.71 | 616.46 | 538.65 | 448.02 | 632.70 | 840.47 | 834.57 | 684.21 | 741.60 | 676.31 | 449.73 | 532.67 | 563.45 | 530.10 | 630.99 | 894.33 | 0.00 | 51.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 523.26 | 520.70 | 604.49 | 0.00 | 0.00 | 0.00 |
| **Mag Rock (st)** | 1,224.54 | 1,245.83 | 1,016.64 | 1,738.80 | 2,072.51 | 1,940.36 | 1,774.22 | 1,439.55 | 1,853.95 | 1,771.77 | 2,307.30 | 1,199.34 | 1,306.44 | 1,690.79 | 1,184.27 | 1,025.33 | 1,101.24 | 1,121.13 | 0.00 | 81.36 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1,252.44 | 848.88 | 908.78 | 0.00 | 0.00 | 0.00 |
| **Clay (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Sand (st)** | 432.05 | 466.07 | 347.00 | 479.68 | 410.87 | 436.59 | 454.73 | 390.10 | 386.69 | 405.97 | 428.41 | 381.02 | 379.89 | 443.39 | 269.77 | 438.86 | 356.70 | 373.09 | 0.00 | 31.59 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 382.73 | 269.89 | 298.24 | 0.00 | 0.00 | 0.00 |
| **HI Silica Sand (st)** | 82.30 | 88.78 | 66.10 | 91.37 | 136.61 | 83.16 | 86.62 | 74.30 | 73.66 | 77.33 | 79.70 | 72.58 | 72.36 | 84.46 | 51.38 | 83.59 | 68.26 | 71.06 | 0.00 | 3.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 42.53 | 51.41 | 56.81 | 0.00 | 0.00 | 0.00 |
| **IP Fly Ash (wet) (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Iron Ore (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Copper Slag (st) Iron Replacement** | 46.27 | 27.54 | 25.52 | 33.04 | 30.33 | 23.99 | 38.49 | 33.44 | 21.14 | 34.60 | 34.99 | 31.14 | 41.99 | 42.87 | 26.59 | 24.72 | 24.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 45.11 | 15.23 | 16.04 | 0.00 | 0.00 | 0.00 |
| **Zinc Slag (st) ( IRM )** | 31.49 | 55.08 | 42.52 | 67.08 | 70.76 | 69.32 | 57.74 | 50.16 | 63.42 | 51.90 | 62.21 | 55.37 | 62.99 | 59.19 | 47.28 | 61.79 | 57.15 | 72.90 | 0.00 | 5.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 30.71 | 30.46 | 48.11 | 0.00 | 0.00 | 0.00 |
| **CKD (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Spent Catalyst (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CLINKER 229 (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **O.C.S. (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **#2 STOCKPILE (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**December, 2015**

| | 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th | 18th | 19th | 20th | 21st | 22nd | 23rd | 24th | 25th | 26th | 27th | 28th | 29th | 30th | 31st |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Sweet Rock (st)** | 75.60 | 792.90 | 622.80 | 461.70 | 749.70 | 569.70 | 588.60 | 603.90 | 904.20 | 905.37 | 614.91 | 814.50 | 855.90 | 732.60 | 331.20 | 1,099.80 | 799.20 | 864.90 | 902.70 | 550.80 | 641.70 | 417.60 | 701.10 | 428.40 | 570.60 | 148.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Low Rock (st)** | 147.06 | 831.92 | 988.38 | 984.11 | 1,027.71 | 769.50 | 837.90 | 573.71 | 735.57 | 509.85 | 678.56 | 1,063.05 | 1,001.21 | 873.81 | 85.50 | 563.45 | 717.35 | 654.08 | 464.27 | 687.42 | 718.20 | 524.97 | 500.18 | 421.52 | 539.51 | 79.52 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Mag Rock (st)** | 197.64 | 1,231.65 | 1,566.27 | 1,400.18 | 1,473.39 | 1,237.14 | 1,514.30 | 1,882.89 | 1,811.21 | 1,251.32 | 1,060.72 | 1,423.80 | 1,297.80 | 1,149.30 | 256.73 | 1,154.48 | 1,204.07 | 1,246.59 | 1,633.28 | 1,771.88 | 2,003.40 | 1,309.59 | 1,823.04 | 1,707.30 | 2,270.66 | 219.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Clay (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Sand (st)** | 72.58 | 424.12 | 460.40 | 504.00 | 546.00 | 504.00 | 503.58 | 619.33 | 568.01 | 731.77 | 719.00 | 758.81 | 761.17 | 584.18 | 141.75 | 489.89 | 562.46 | 661.77 | 666.90 | 573.28 | 398.16 | 374.22 | 579.15 | 488.70 | 646.65 | 301.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **HI Silica Sand (st)** | 13.82 | 80.78 | 87.70 | 96.00 | 104.00 | 96.00 | 95.92 | 117.97 | 108.19 | 139.38 | 133.77 | 144.54 | 144.98 | 111.27 | 27.00 | 93.31 | 107.14 | 34.83 | 35.10 | 30.17 | 75.84 | 71.28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **IP Fly Ash (wet) (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Iron Ore (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Copper Slag (st) Iron Replacement** | 2.19 | 13.56 | 15.16 | 15.89 | 15.68 | 16.02 | 11.96 | 14.73 | 12.98 | 19.75 | 16.98 | 29.58 | 25.08 | 12.72 | 5.38 | 17.77 | 12.39 | 12.25 | 21.11 | 17.76 | 37.18 | 15.31 | 34.60 | 30.33 | 63.04 | 7.52 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Zinc Slag (st) ( IRM )** | 12.39 | 76.84 | 85.92 | 90.03 | 88.88 | 90.77 | 67.75 | 83.45 | 73.53 | 55.10 | 47.17 | 60.81 | 58.51 | 54.35 | 16.97 | 68.74 | 70.23 | 69.40 | 71.23 | 66.81 | 61.96 | 45.93 | 51.90 | 45.49 | 42.91 | 5.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CKD (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Spent Catalyst (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **CLINKER 229 (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **O.C.S. (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **#2 STOCKPILE (st)** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# ATTACHMENT 4

*Dragon Products Company, LLC*

*Ammonia CEMs Emissions Data and*

*Ammonia Slip Testing Results*

**Dragon Products Company, LLC**
**USEPA and Dragon Products Company, LLC**
**Consent Agreement and Final Order**
**Attachment I: Condition 7: Demonstration Period Data Collection**

**Sheet 4: Ammonia CEMs Data**

| Date | NH3, PPM | NH3 DRY, PPMVD | NH3 DRY @7% O2, PPMVD |
|---|---|---|---|
| 3/28/2015 | 7.48 | 8.93 | 10.80 |
| 4/18/2015 | 1.63 | 1.73 | 1.91 |
| 4/19/2015 | 0.00 | 0.00 | 0.00 |
| 4/20/2015 | 1.38 | 1.46 | 2.08 |
| 4/21/2015 | 1.60 | 1.68 | 1.01 |
| 4/22/2015 | 0.38 | 0.39 | N/A |
| 4/23/2015 | N/A | N/A | N/A |
| 4/24/2015 | N/A | N/A | N/A |
| 4/25/2015 | N/A | N/A | N/A |
| 4/26/2015 | N/A | N/A | N/A |
| 4/27/2015 | N/A | N/A | N/A |
| 4/28/2015 | N/A | N/A | N/A |
| 4/29/2015 | N/A | N/A | N/A |
| 4/30/2015 | N/A | N/A | N/A |
| 5/1/2015 | N/A | N/A | N/A |
| 5/2/2015 | 7.68 | 7.78 | N/A |
| 5/3/2015 | N/A | N/A | N/A |
| 5/4/2015 | N/A | N/A | N/A |
| 5/5/2015 | 0.47 | 0.47 | 0.58 |
| 5/6/2015 | 1.53 | 1.76 | 2.90 |
| 5/7/2015 | 6.18 | 7.19 | 8.93 |
| 5/8/2015 | 5.79 | 6.92 | 7.43 |
| 5/9/2015 | 6.00 | 7.13 | 7.58 |
| 5/10/2015 | 6.27 | 7.56 | 8.15 |
| 5/11/2015 | 6.47 | 7.74 | 8.49 |
| 5/12/2015 | 10.18 | 12.06 | 13.46 |
| 5/13/2015 | 8.19 | 9.88 | 10.71 |
| 5/14/2015 | 9.39 | 11.05 | 11.90 |
| 5/15/2015 | 8.09 | 9.54 | 10.72 |
| 5/16/2015 | 7.45 | 8.90 | 9.57 |
| 5/17/2015 | 5.98 | 7.18 | 8.31 |
| 5/18/2015 | 4.75 | 5.64 | 6.95 |
| 5/19/2015 | 6.49 | 7.66 | 9.29 |
| 5/20/2015 | 4.97 | 5.89 | 6.54 |
| 5/21/2015 | N/A | N/A | N/A |
| 5/22/2015 | N/A | N/A | N/A |

| | | | |
|---|---|---|---|
| 5/23/2015 | N/A | N/A | N/A |
| 5/24/2015 | N/A | N/A | N/A |
| 5/25/2015 | N/A | N/A | N/A |
| 5/26/2015 | N/A | N/A | N/A |
| 5/27/2015 | N/A | N/A | N/A |
| 5/28/2015 | N/A | N/A | N/A |
| 5/29/2015 | N/A | N/A | N/A |
| 5/30/2015 | N/A | N/A | N/A |
| 5/31/2015 | N/A | N/A | N/A |
| 6/1/2015 | 6.33 | 7.62 | N/A |
| 6/2/2015 | 1.75 | 2.01 | N/A |
| 6/3/2015 | 3.59 | 4.31 | 5.15 |
| 6/4/2015 | 4.24 | 4.99 | 5.53 |
| 6/5/2015 | 5.00 | 5.92 | 6.70 |
| 6/6/2015 | N/A | N/A | N/A |
| 6/7/2015 | N/A | N/A | N/A |
| 6/8/2015 | 12.02 | 13.63 | 14.12 |
| 6/9/2015 | 10.36 | 12.17 | 13.63 |
| 6/10/2015 | 6.73 | 7.90 | 8.65 |
| 6/11/2015 | 4.90 | 5.79 | 6.48 |
| 6/12/2015 | 6.48 | 7.66 | 8.68 |
| 6/13/2015 | 4.31 | 5.10 | 6.00 |
| 6/14/2015 | 5.39 | 6.32 | 7.32 |
| 6/15/2015 | 4.55 | 5.27 | 5.67 |
| 6/16/2015 | 2.98 | 3.42 | 4.05 |
| 6/17/2015 | 5.42 | 6.47 | 7.07 |
| 6/18/2015 | 7.28 | 8.53 | 12.25 |
| 6/19/2015 | 7.45 | 8.84 | 10.07 |
| 6/20/2015 | 1.75 | 2.03 | 2.41 |
| 6/21/2015 | 1.71 | 1.97 | 2.25 |
| 6/22/2015 | 4.81 | 5.69 | 6.24 |
| 6/23/2015 | 4.12 | 4.79 | 5.47 |
| 6/24/2015 | 0.82 | 0.96 | 1.05 |
| 6/25/2015 | 0.83 | 0.95 | 1.01 |
| 6/26/2015 | 2.84 | 3.29 | 3.77 |
| 6/27/2015 | 6.40 | 7.56 | 9.00 |
| 6/28/2015 | 12.33 | 14.75 | 16.67 |
| 6/29/2015 | 14.37 | 17.30 | 19.06 |
| 6/30/2015 | 13.93 | 16.60 | 19.27 |
| 7/1/2015 | 10.68 | 12.74 | 20.57 |
| 7/2/2015 | 12.17 | 14.59 | N/A |
| 7/3/2015 | 9.99 | 11.89 | N/A |
| 7/4/2015 | 8.44 | 10.18 | N/A |
| 7/5/2015 | 14.31 | 16.97 | N/A |
| 7/6/2015 | 8.08 | 9.64 | N/A |
| 7/7/2015 | 7.93 | 9.43 | N/A |
| 7/8/2015 | 9.04 | 10.89 | N/A |

| | | | |
|---|---|---|---|
| 7/9/2015 | 5.89 | 6.96 | 6.79 |
| 7/10/2015 | 1.65 | 1.93 | 2.28 |
| 7/11/2015 | 1.30 | 1.51 | 1.83 |
| 7/12/2015 | N/A | N/A | N/A |
| 7/13/2015 | N/A | N/A | N/A |
| 7/14/2015 | N/A | N/A | N/A |
| 7/15/2015 | N/A | N/A | N/A |
| 7/16/2015 | N/A | N/A | N/A |
| 7/17/2015 | N/A | N/A | N/A |
| 7/18/2015 | N/A | N/A | N/A |
| 7/19/2015 | N/A | N/A | N/A |
| 7/20/2015 | N/A | N/A | N/A |
| 7/21/2015 | N/A | N/A | N/A |
| 7/22/2015 | N/A | N/A | N/A |
| 7/23/2015 | N/A | N/A | N/A |
| 7/24/2015 | N/A | N/A | N/A |
| 7/25/2015 | N/A | N/A | N/A |
| 7/26/2015 | N/A | N/A | N/A |
| 7/27/2015 | N/A | N/A | N/A |
| 7/28/2015 | N/A | N/A | N/A |
| 7/29/2015 | N/A | N/A | N/A |
| 7/30/2015 | N/A | N/A | N/A |
| 7/31/2015 | N/A | N/A | N/A |
| 8/1/2015 | N/A | N/A | N/A |
| 8/2/2015 | N/A | N/A | N/A |
| 8/3/2015 | N/A | N/A | N/A |
| 8/4/2015 | N/A | N/A | N/A |
| 8/5/2015 | 2.25 | 2.64 | N/A |
| 8/6/2015 | 0.89 | 1.06 | N/A |
| 8/7/2015 | 3.00 | 3.59 | 2.14 |
| 8/8/2015 | 6.04 | 7.20 | 7.73 |
| 8/9/2015 | 0.53 | 0.63 | 0.66 |
| 8/10/2015 | 0.37 | 0.42 | 0.48 |
| 8/11/2015 | 4.94 | 5.94 | 6.58 |
| 8/12/2015 | 9.55 | 11.38 | 12.17 |
| 8/13/2015 | 7.02 | 8.21 | 9.68 |
| 8/14/2015 | 5.46 | 6.48 | 8.90 |
| 8/15/2015 | 5.27 | 6.34 | 8.48 |
| 8/16/2015 | 6.97 | 8.53 | 7.49 |
| 8/17/2015 | 3.88 | 4.63 | N/A |
| 8/18/2015 | 4.63 | 5.47 | 9.91 |
| 8/19/2015 | 6.60 | 7.96 | 9.05 |
| 8/20/2015 | 10.39 | 12.53 | 14.00 |
| 8/21/2015 | 7.65 | 9.36 | 11.71 |
| 8/22/2015 | 5.49 | 6.54 | 8.01 |
| 8/23/2015 | 8.75 | 10.64 | 12.30 |
| 8/24/2015 | 9.66 | 11.74 | 13.84 |

| | | | |
|---|---|---|---|
| 8/25/2015 | 8.34 | 10.02 | 12.61 |
| 8/26/2015 | 11.48 | 13.75 | 17.14 |
| 8/27/2015 | 12.95 | 15.61 | 19.83 |
| 8/28/2015 | 9.62 | 11.52 | 14.62 |
| 8/29/2015 | 9.84 | 11.69 | 15.30 |
| 8/30/2015 | 9.15 | 11.16 | 14.12 |
| 8/31/2015 | 9.80 | 11.57 | 14.90 |
| 9/1/2015 | 2.94 | 3.49 | 4.11 |
| 9/2/2015 | 10.52 | 12.64 | 13.33 |
| 9/3/2015 | 5.95 | 7.06 | 8.89 |
| 9/4/2015 | 4.70 | 5.55 | 6.88 |
| 9/5/2015 | 7.09 | 8.37 | 10.35 |
| 9/6/2015 | 6.15 | 7.29 | 9.03 |
| 9/7/2015 | 6.44 | 7.61 | 9.43 |
| 9/8/2015 | 5.39 | 6.36 | 8.25 |
| 9/9/2015 | 5.79 | 6.97 | 8.14 |
| 9/10/2015 | 5.87 | 7.10 | 8.54 |
| 9/11/2015 | 11.26 | 12.76 | 15.46 |
| 9/12/2015 | 10.68 | 11.85 | 13.89 |
| 9/13/2015 | 4.75 | 5.33 | 6.47 |
| 9/14/2015 | 9.37 | 10.57 | 18.21 |
| 9/15/2015 | 5.08 | 5.66 | 8.26 |
| 9/16/2015 | 8.68 | 9.80 | 11.82 |
| 9/17/2015 | 0.96 | 1.09 | 1.30 |
| 9/18/2015 | N/A | N/A | N/A |
| 9/19/2015 | N/A | N/A | N/A |
| 9/20/2015 | N/A | N/A | N/A |
| 9/21/2015 | N/A | N/A | N/A |
| 9/22/2015 | N/A | N/A | N/A |
| 9/23/2015 | N/A | N/A | N/A |
| 9/24/2015 | N/A | N/A | N/A |
| 9/25/2015 | N/A | N/A | N/A |
| 9/26/2015 | N/A | N/A | N/A |
| 9/27/2015 | N/A | N/A | N/A |
| 9/28/2015 | N/A | N/A | N/A |
| 9/29/2015 | N/A | N/A | N/A |
| 9/30/2015 | N/A | N/A | N/A |
| 10/1/2015 | N/A | N/A | N/A |
| 10/2/2015 | N/A | N/A | N/A |
| 10/3/2015 | N/A | N/A | N/A |
| 10/4/2015 | N/A | N/A | N/A |
| 10/5/2015 | N/A | N/A | N/A |
| 10/6/2015 | N/A | N/A | N/A |
| 10/7/2015 | 5.10 | 6.19 | 9.04 |
| 10/8/2015 | 5.16 | 6.12 | 7.38 |
| 10/9/2015 | 2.10 | 2.42 | 3.22 |
| 10/10/2015 | 3.68 | 4.38 | 8.42 |

| | | | |
|---|---|---|---|
| 10/11/2015 | 13.42 | 15.81 | 21.14 |
| 10/12/2015 | 10.03 | 11.66 | 15.69 |
| 10/13/2015 | 18.05 | 21.50 | 27.35 |
| 10/14/2015 | 14.93 | 17.76 | 23.98 |
| 10/15/2015 | 10.31 | 11.97 | 17.50 |
| 10/16/2015 | 9.07 | 10.54 | 14.84 |
| 10/17/2015 | 4.47 | 5.11 | 7.48 |
| 10/18/2015 | 7.48 | 8.66 | 11.88 |
| 10/19/2015 | 5.03 | 5.78 | 10.10 |
| 10/20/2015 | 5.13 | 5.90 | 8.35 |
| 10/21/2015 | 9.25 | 10.80 | 14.63 |
| 10/22/2015 | 17.29 | 20.24 | 27.90 |
| 10/23/2015 | 12.29 | 14.31 | 20.21 |
| 10/24/2015 | 8.89 | 10.46 | 14.07 |
| 10/25/2015 | 7.12 | 8.33 | 11.90 |
| 10/26/2015 | 8.45 | 9.83 | 13.26 |
| 10/27/2015 | 0.81 | 0.93 | 1.57 |
| 10/28/2015 | 6.11 | 7.15 | 10.78 |
| 10/29/2015 | 3.40 | 3.97 | 5.38 |
| 10/30/2015 | 6.97 | 8.06 | 11.67 |
| 10/31/2015 | 5.46 | 6.31 | 9.49 |
| 11/1/2015 | 2.26 | 2.50 | 3.99 |
| 11/2/2015 | 1.99 | 2.20 | 2.84 |
| 11/3/2015 | 1.64 | 1.78 | 2.55 |
| 11/4/2015 | 8.23 | 9.24 | 12.63 |
| 11/5/2015 | 3.23 | 3.61 | 4.77 |
| 11/6/2015 | 3.70 | 4.19 | 5.67 |
| 11/7/2015 | 3.78 | 4.25 | 5.72 |
| 11/8/2015 | 2.32 | 2.57 | 3.55 |
| 11/9/2015 | 6.00 | 6.75 | 9.12 |
| 11/10/2015 | 7.71 | 8.68 | 11.99 |
| 11/11/2015 | 9.89 | 11.19 | 15.00 |
| 11/12/2015 | 11.88 | 13.42 | 18.74 |
| 11/13/2015 | 13.85 | 15.56 | 22.02 |
| 11/14/2015 | 10.86 | 12.18 | 16.93 |

N/A - Data not available. Note that ammonia emissions corrected to 7% oxygen may also not be available due to oxygen monitor malfunctions.

# ATTACHMENT 5

*Dragon Products Company, LLC*

*Proposed NOx Emission Rate Limit Calculations*

**Dragon Products Company, LLC**
**USEPA and Dragon Products Company, LLC**
**Consent Agreement and Final Order**
**Attachment I: Condition 7: Demonstration Period Data Collection**

**Sheet 5: Proposed NOx Emissions Limit Calculation**

**5.1 CAFO NOx EMISSIONS LIMIT EQUATION:**

$X = \bar{u} + 1.645\sigma$

Where:
X = 30-Day Rolling Average Emission Limit (lbs NOx/ton clinker)
$\bar{u}$ = mean of all of the 30-day controlled NOx emission rate averages collected during the demonstration period
$\sigma$ = standard deviation of all of the 30-day NOx emission rate averages collected during the demonstration period.

**5.2 CAFO NOx EMISSIONS LIMIT CALCULATION:**

| | |
|---|---|
| $\bar{u}$ = | 2.06 |
| $\sigma$ = | 0.17 |
| # of Data Pts: | 114 |
| | |
| X= | 2.33 |

**5.3 DEMONSTRATION PERIOD DATA:**

| Date | Daily Production (tpd) | Daily NOx Emissions (lb/day) | 30-Day Rolling Average NOx Emissions (lb/tn) |
|---|---|---|---|
| 12/9/2014 | 2393 | 6880.06 | |
| 12/10/2014 | 2203 | 5671.84 | |
| 12/11/2014 | 1607 | 5435.67 | |
| 12/12/2014 | 1076 | 3220.04 | |
| 12/13/2014 | 2268 | 7040.63 | |
| 12/14/2014 | 2302 | 7950.78 | |
| 12/15/2014 | 2264 | 7658.21 | |
| 12/16/2014 | 2326 | 7640.59 | |
| 12/17/2014 | 2304 | 6389.45 | |
| 12/18/2014 | 2135 | 6134.49 | |
| 12/19/2014 | 2178 | 6067.58 | |

| | | | |
|---|---|---|---|
| 12/20/2014 | 2462 | 6735.84 | |
| 12/21/2014 | 2217 | 6486.78 | |
| 12/22/2014 | 2456 | 7401.25 | |
| 12/23/2014 | 2546 | 6355.46 | |
| 12/24/2014 | 2362 | 5756.52 | |
| 12/25/2014 | 2425 | 4712.27 | |
| 12/26/2014 | 2365 | 6582.75 | |
| 12/27/2014 | 2387 | 6376.87 | |
| 12/28/2014 | 2300 | 6822.05 | |
| 4/27/2015 | 2169 | 5021.44 | |
| 4/28/2015 | 2124 | 4863.11 | |
| 4/29/2015 | 1948 | 4239.41 | |
| 4/30/2015 | 1848 | 2997.33 | |
| 5/1/2015 | 2071 | 4171.63 | |
| 5/2/2015 | 1820 | 3123.47 | |
| 5/6/2015 | 2138 | 4438.66 | |
| 5/7/2015 | 2228 | 5111.01 | |
| 5/8/2015 | 2308 | 5008.34 | |
| 5/9/2015 | 2301 | 4960.50 | 2.61 |
| 5/10/2015 | 2249 | 4611.52 | 2.58 |
| 5/11/2015 | 2020 | 4392.51 | 2.57 |
| 5/12/2015 | 2173 | 4078.84 | 2.53 |
| 5/13/2015 | 2124 | 4164.37 | 2.50 |
| 5/14/2015 | 1916 | 3242.14 | 2.46 |
| 5/15/2015 | 2100 | 3881.75 | 2.41 |
| 5/16/2015 | 2269 | 4569.93 | 2.36 |
| 5/17/2015 | 2070 | 3994.61 | 2.31 |
| 5/18/2015 | 1890 | 3944.09 | 2.29 |
| 5/19/2015 | 1745 | 3322.87 | 2.26 |
| 5/20/2015 | 1255 | 3040.42 | 2.25 |
| 6/2/2015 | 2052 | 5232.55 | 2.24 |
| 6/3/2015 | 2272 | 5092.43 | 2.21 |
| 6/4/2014 | 1982 | 3978.87 | 2.18 |
| 6/5/2015 | 1932 | 4404.22 | 2.17 |
| 6/6/2015 | 2273 | 4361.63 | 2.15 |
| 6/7/2015 | 2252 | 4661.69 | 2.15 |
| 6/8/2015 | 2209 | 4283.02 | 2.12 |
| 6/9/2015 | 2161 | 4401.85 | 2.10 |
| 6/10/2015 | 2209 | 5079.87 | 2.07 |
| 6/11/2015 | 1342 | 3976.25 | 2.08 |
| 6/12/2015 | 2155 | 3984.09 | 2.07 |
| 6/13/2015 | 1514 | 2917.66 | 2.06 |
| 6/14/2015 | 2106 | 3983.52 | 2.07 |
| 6/15/2015 | 2163 | 4096.86 | 2.06 |
| 6/16/2015 | 2074 | 4499.54 | 2.08 |
| 6/17/2015 | 1377 | 3435.03 | 2.09 |
| 6/18/2015 | 1890 | 3975.75 | 2.08 |

| | | | |
|---|---|---|---|
| 6/19/2015 | 2145 | 4700.79 | 2.08 |
| 6/20/2015 | 1891 | 4716.95 | 2.09 |
| 6/21/2015 | 2180 | 5025.25 | 2.10 |
| 6/22/2015 | 2237 | 4380.75 | 2.09 |
| 6/23/2015 | 2029 | 4283.48 | 2.10 |
| 6/24/2015 | 1772 | 3709.93 | 2.11 |
| 6/25/2015 | 2264 | 4377.07 | 2.11 |
| 6/26/2015 | 2206 | 4779.60 | 2.12 |
| 6/27/2015 | 2121 | 4914.93 | 2.13 |
| 6/29/2015 | 2177 | 3959.32 | 2.13 |
| 6/30/2015 | 2197 | 4335.58 | 2.13 |
| 7/1/2015 | 2248 | 3721.17 | 2.11 |
| 7/2/2015 | 2279 | 3760.14 | 2.09 |
| 7/3/2015 | 2288 | 4166.06 | 2.07 |
| 7/4/2015 | 2269 | 3508.05 | 2.04 |
| 7/5/2015 | 2259 | 3911.84 | 2.03 |
| 8/6/2015 | 1648 | 4288.00 | 2.04 |
| 8/7/2015 | 2245 | 3930.52 | 2.03 |
| 8/8/2015 | 2064 | 3285.53 | 2.02 |
| 8/9/2015 | 1384 | 2289.80 | 2.01 |
| 8/10/2015 | 2152 | 3697.14 | 2.00 |
| 8/11/2015 | 1733 | 3297.44 | 1.99 |
| 8/12/2015 | 2032 | 2764.95 | 1.94 |
| 8/13/2015 | 1967 | 3031.14 | 1.93 |
| 8/14/2015 | 1884 | 2957.62 | 1.92 |
| 8/15/2015 | 1939 | 3090.13 | 1.91 |
| 8/16/2015 | 1871 | 3545.26 | 1.91 |
| 8/19/2015 | 902 | 1612.74 | 1.90 |
| 8/20/2015 | 2172 | 3965.80 | 1.89 |
| 8/21/2015 | 1662 | 3037.13 | 1.88 |
| 8/22/2015 | 1662 | 3887.97 | 1.88 |
| 8/23/2015 | 1820 | 3997.45 | 1.87 |
| 8/24/2015 | 1778 | 3512.19 | 1.86 |
| 8/25/2015 | 1781 | 3729.35 | 1.86 |
| 8/26/2015 | 1800 | 3654.85 | 1.86 |
| 8/27/2015 | 1712 | 3731.96 | 1.86 |
| 8/28/2015 | 1797 | 3716.69 | 1.86 |
| 8/29/2015 | 1787 | 3434.37 | 1.85 |
| 8/30/2015 | 1755 | 3484.70 | 1.84 |
| 8/31/2015 | 1755 | 3733.37 | 1.85 |
| 9/1/2015 | 1956 | 3196.21 | 1.84 |
| 9/2/2015 | 1858 | 3350.51 | 1.84 |
| 9/3/2015 | 1787 | 3552.54 | 1.86 |
| 9/4/2015 | 2086 | 4436.78 | 1.87 |
| 9/5/2015 | 2004 | 4165.65 | 1.89 |
| 9/6/2015 | 2069 | 3881.96 | 1.89 |
| 9/7/2015 | 2033 | 3946.88 | 1.87 |

| | | | |
|---|---|---|---|
| 9/8/2015 | 671 | 3484.52 | 1.92 |
| 9/9/2015 | 1043 | 4263.37 | 1.98 |
| 9/10/2015 | 1656 | 4063.32 | 2.00 |
| 9/15/2015 | 1942 | 3966.81 | 2.01 |
| 9/16/2015 | 1857 | 3911.56 | 2.02 |
| 9/17/2015 | 533 | 1830.71 | 2.06 |
| 10/8/2015 | 1053 | 2738.19 | 2.09 |
| 10/9/2015 | 1990 | 4394.31 | 2.12 |
| 10/11/2015 | 2192 | 4094.08 | 2.12 |
| 10/12/2015 | 2045 | 4265.55 | 2.13 |
| 10/13/2015 | 2033 | 3777.91 | 2.13 |
| 10/14/2015 | 2121 | 3823.15 | 2.13 |
| 10/15/2015 | 2053 | 3905.89 | 2.13 |
| 10/16/2015 | 2148 | 3595.69 | 2.10 |
| 10/17/2015 | 1975 | 3480.41 | 2.09 |
| 10/18/2015 | 2202 | 4258.80 | 2.08 |
| 10/19/2015 | 2001 | 3536.70 | 2.07 |
| 10/20/2015 | 1305 | 2216.32 | 2.06 |
| 10/21/2015 | 2123 | 3964.03 | 2.05 |
| 10/22/2015 | 2192 | 4057.14 | 2.04 |
| 10/23/2015 | 2156 | 4408.10 | 2.05 |
| 10/24/2015 | 2116 | 4441.55 | 2.05 |
| 10/25/2015 | 1677 | 3304.08 | 2.05 |
| 10/26/2015 | 2116 | 4663.99 | 2.07 |
| 10/27/2015 | 723 | 1580.33 | 2.08 |
| 10/28/2015 | 1887 | 2858.28 | 2.06 |
| 10/29/2015 | 2073 | 2955.73 | 2.03 |
| 10/30/2015 | 1948 | 3944.84 | 2.03 |
| 11/3/2015 | 1941 | 3042.85 | 2.02 |
| 11/4/2015 | 1986 | 3128.64 | 2.01 |
| 11/5/2015 | 2146 | 2963.33 | 1.95 |
| 11/6/2015 | 2176 | 2940.34 | 1.88 |
| 11/9/2015 | 2220 | 4153.66 | 1.87 |
| 11/10/2015 | 2152 | 4511.54 | 1.87 |
| 11/11/2015 | 2194 | 4591.66 | 1.87 |
| 11/12/2015 | 2103 | 4878.23 | 1.87 |
| 11/13/2015 | 2055 | 4394.58 | 1.87 |
| 11/14/2015 | 2052 | 4936.49 | 1.87 |